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KNOW YOUR OWN MIND

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Know Your Own Mind

A LITTLE BOOK
OF
PRACTICAL PSYCHOLOGY

BY
WILLIAM GLOVER

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PREFACE

Mr H. G. Wells, in *Mankind in the Making*, says that only thoughts which can be expressed on the meanest commonplace will ever, under present conditions, reach the minds of the majority of the English-speaking peoples. If this be so, it is a bad look-out for the popularity of Psychology.

Personally, I think Mr Wells too pessimistic; and in the following pages I have tried to interest the man in the street—not the man at the street-corner—in the study of a subject vital to his welfare. I have, moreover, been encouraged in my project by the words of that eminent authority, William James, who tells us that "the elements of the mental machine can be clearly apprehended, and their workings easily grasped."

As these elements and general workings are just the parts of psychology most directly applicable to everyday life, and as this is intended to be a practical manual, it follows that the *matter* is confined mainly to first principles and their practical application.

The *manner* gave me some trouble. One likes to be up-to-date, and my first intention was to write a kind of Psychology-by-Cinematograph. When I came to try this, however, I found that it wouldn't quite work. Nevertheless, though I had to modify my plans, I tried to catch some of the cinema spirit, and to be as illustrative as the subject allowed. Of course there is danger in such a method of treatment; for metaphor, simile, and allegory are kittle cattle to handle, and no material figure can satisfactorily stand for facts of mind; but I trust I have not led the reader into any, at all events grave, misconceptions. A treatise for philosophers would necessarily make use of a different diction, a different Universe of Discourse.

In writing my little book I have been greatly indebted to Adams' *The Herbartian Psychology applied to Education.* I have also consulted Ufer's *Introduction to the Pedagogy of Herbart;* Lange's *Apperception;* James's *Text-book of Psychology*, and the same author's *Talks to Teachers on Psychology: and to Students on Some of Life's Ideals;* Titchener's *Primer of Psychology;* Hayward's *The Secret of Herbart*, and *Education and the Heredity Spectre;* Findlay's *Principles of Class Teaching;* Welton's *The Logical Basis of Education;* Hamilton's *Lectures on*

Metaphysics; and Falckenberg's *History of Modern Philosophy*.

To those who are specially interested in the subject of my Postscript-Chapter I recommend: *Eucken*, by Abel Jones, published in Jacks' series of *People's Books*; *Eucken and Bergson: Their Significance for Christian Thought*, by E. Hermann (James Clarke & Co.); Boyce Gibson's *Rudolf Eucken's Philosophy of Life* (A. & C. Black); and Eucken's *The Truth of Religion*, translated by W. Tudor Jones (Williams & Norgate).

W. G.

Plasnewydd School
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CONTENTS

CHAP.		PAGE
I.	Does the Study of Psychology Pay?	1
II	Mind and Body	9
III.	Clearing the Ground	20
IV.	The Beginnings of Mind	30
V.	How Ideas get into the Mind	38
VI.	Consciousness	50
VII.	A Bit of Mental Machinery	64
VIII.	Some Mental Happenings	75
IX.	Phases of Apperception	86
X.	Conditions of Apperception	104
XI.	Training	120
XII.	Observation	133
XIII.	Judging and Reasoning	143
XIV.	Attention	160
XV.	Interest	174
XVI.	Some Practical Conclusions	185
XVII.	A Vital Postscript	197
	Index	202

KNOW YOUR OWN MIND

CHAPTER I

DOES THE STUDY OF PSYCHOLOGY PAY?

SUPPOSE a man bought a motor-car; and suppose, being ignorant of mechanics in general, and the mechanism of motors in particular, he started to drive his own car. Interesting things would happen. Perhaps the car wouldn't go; perhaps it wouldn't stop; perhaps it would insist upon its right to turn itself into a display of fireworks. A thousand accidents might occur, would occur. As long as that car remained an organic unity, it would afford infinite diversion to its driver—until it had succeeded in eliminating him from a life of thrills.

To know something about motors certainly pays the driver of a motor-car. It is not absolutely necessary that he should have at his fingers' ends all the intimate details of their construction; but, if he is to get along at all comfortably, he ought, at any rate, to

have some idea as to what will be likely to happen if he turns this wheel or moves that lever. Many drivers are content with this rudimentary knowledge, and manage to muddle along without wrecking the car, and without an abnormal number of convictions for manslaughter. But they cannot run the machinery economically; they are never quite sure what the next moment may bring forth; and they are always at the mercy of the specialist when anything goes wrong.

Now, to drive their own motors is a luxury that most people—perhaps fortunately—will never be able to afford. Yet each of us, without exception, is in possession of a bit of mechanism very much more complex than a motor; and we have to drive it whether we understand it or not. Happily it is largely self-acting, and gets along, somehow, with very little conscious attention from its owner-and-driver. But, left so much to its own devices, it acts capriciously. Sometimes it runs away with us. Sometimes it jibs, as it were, in a crowded thoroughfare. And perhaps it would be no exaggeration to say that it carries us in a wrong direction oftener than in the right. Without further riddles, the bit of mechanism to which I refer is the Human Mind.

I had just finished writing the last word of the preceding paragraph, when there suddenly occurred to me the strangely incongruous idea of a buttercup. Where did it come from? What called it up? Or did it appear without a summons? Many minds are little more than playgrounds for flashing, darting, apparently disconnected and random thoughts, pictures, imaginings. Yet we cannot but believe that there is a cause for these kaleidoscopic phenomena; and that they come and go, grow distinct and fade away, fill the mind and then dwindle to nothingness, all in accordance with natural laws. Would it not be an advantage to us if we knew what these laws are? Might not the knowledge enable us to harness the wandering sprites, and make them do steady, useful work? Oliver Wendell Holmes tells us that "the flowering moments of the mind drop half their petals in our speech." Maybe they would not drop their petals in such a tantalising fashion if we gave the same attention to mind-culture that a gardener bestows on the rearing of roses.

Who has not met with some such experience as the following? A man sits down to do solid mental work. He has a hard problem to tackle, and he summons all his best powers for the task. But—he does not for

the life of him know why—his best powers refuse to answer to his call; and in their place comes a procession of weak and futile fancies. As Stevenson puts it, the great barons of the mind sulk in their tents, and it is only the rank and file who respond to the call of the trumpet. There is undoubtedly a cause for this sulking; and it is the plain duty of man, as the commander-in-chief of his own forces, to find out what that cause is.

We send our boys and girls to school for five, ten, fifteen years, and then we complain that education has not done for them what we expected it would do. We have grounds for our dissatisfaction Not that the teachers have been idle: it is their efforts that have been misdirected. Pedagogical practice has not kept pace with psychological principle. To this cause more than any other is probably due what many people regard as the comparative failure of our educational system.

And so our young folks go out into the world more or less imperfectly equipped for the duties that lie before them. One thing, however, is certain: whatever else they have learnt, they have not learnt psychology; it is not in the curriculum. Fickle and unstable people are often reproached with "not knowing their own minds." Using the words in a

different sense, the accusation is generally true as regards those who leave school. They do not know their inner selves. They do not know how the mind works, how it grows, how it developes. Culture epochs? They never heard of them. The building of knowledge into faculty? The organisation of ideas into masses and systems? The sure and certain method of forming a first-class character? Of these, and many other matters vital to their welfare, they have only the vaguest notion.

I do not say that mental science should be taught *exhaustively* in our schools; but, just as bodily hygiene is already a subject of instruction, so also might mental hygiene find a place; for, in the hands of a capable teacher, it might be made both fascinating and fruitful.

Knowing nothing, then, or next to nothing, of their own inner nature, the coming generations grow up; and, failing to make good this deficiency in after-life, they fall into many consequent blunders. They blunder about choosing a profession or trade, a hobby, companions, a husband or wife; about the regulation and control of the intellect, the emotions, the will; about dealings with themselves and dealings with their fellows. Every day they make mistakes which even a little knowledge of psychology might have pre-

vented; and if at last they reach an old age that is really and truly venerable, they may thank the "Divinity that shapes our ends," rather than their own rough-hewn carving.

There are thousands of people walking our streets to-day in rags and dishonour, who have been ruined, we say, by drink, bad company, idleness, vice. But, did we inquire more deeply into the matter, we should often find that ignorance was responsible for the first lapse, if not, indeed, for much of the subsequent descent: "they did not know."

Do we wish to learn how to make temptation weak and resolution strong? Are we keen to take full advantage of our opportunities? Shall we, in short, be lords of ourselves? Psychology, the science of mind, will lay down principles for our guidance. The study of psychology *does* pay.

"The proper study of mankind is man," says Pope; and the mind is an important part of man's constitution. As a matter of fact, every one of us, whether we know it or not, is engaged upon the study of this science with the hard name. The busybody who inquires so very closely into the concerns of his neighbour; the errand-boy who loiters in doorways to devour the horrors of his penny-dreadful; the superior person who goes in for fiction full

of analysis and empty of story; the lady who waits till her husband has had a good dinner before asking him for a new dress; all these are, in a sense, students of psychology. But their study is, for the most part, empirical, rule-of-thumb; it lacks a rational system of guiding principles; it has little or nothing to do with psychology as a science.

But here a word of warning seems necessary. Psychology is a science, not an art. Let me illustrate the difference.

At a railway-station in one of the agricultural counties, a farmer entered the carriage where I happened to be travelling alone. He was a very communicative fellow, and insisted upon making me the recipient of much autobiographical detail. One of his anecdotes is to the point here. "I am now returning," said he, "from a visit to the farm of Mr Blank. You don't know him? That shows you are not a farmer. Every farmer knows Mr Blank. He is the authority on pigs, and judges them at pretty nearly all the shows in the country; while his book on The Management of the Pig is the standard work on the subject. Well, as I am telling you, I've just come from his farm. I've never been there before, and I don't want to go again. What I've seen surprises me. It just knocks me out.

I can hardly believe the evidence of my own eyes. What do you think? Those pigs of Mr Blank's are the most measly, ill-conditioned, ricketty, razor-backed scarecrows outside the canvas of a freak-museum."

In psychology, as in the management of pigs, it is one thing to know the body of principles, the science; it is quite another to possess the art of putting these principles into practice. The former calls for knowledge; the latter demands action, and depends for its success upon a man's own energy, tact, inventiveness, genius.

To know psychology, therefore, is no guarantee that we shall manage our minds rightly. What the science does for us is to tell us, in advance, that certain methods are wrong, and are bound to fail; and certain methods are right, and are bound to succeed. In this way, not only does it point out many a disastrous pitfall; it also encourages us to persevere, and to walk with quiet confidence along the path that inevitably leads to safety.

CHAPTER II

MIND AND BODY

PSYCHOLOGY, we say, is the study of mind. What is mind? That question is somewhat of a poser, and many volumes have been written in the attempt to answer it. But for our present purpose—a purely practical one—we may define it as the sum of all our thoughts, feelings, and processes of will. The definition is simple and clear, and probably few will dispute its accuracy.

I sit on a chair. The chair has four legs. It would be incorrect to say the legs were *in* the chair; they are not *in* it, but form part and parcel *of* it. I look out of the window, and say to myself "The night is closing in." This thought is not *in* my mind; it is part and parcel *of* my mind. Just as the legs are part and parcel of the chair, so my thoughts, feelings, and processes of will, are part and parcel of my mind.

Presently we shall see that there are facts

which are out of consciousness just now, but which may crop up at any moment; things we have thought, felt, experienced in the past, which have somehow disappeared from present memory, but which are liable to return. This class of facts has a great influence upon us, and is regarded as extremely important. Facts of consciousness present, and facts of consciousness past: these two together make up what we term the mind.

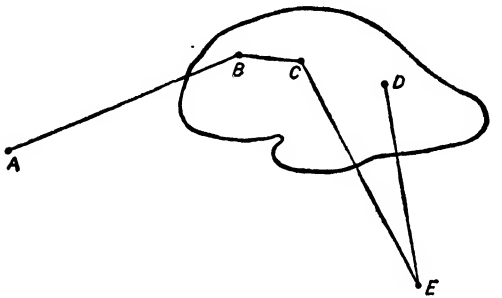
Now the mind communicates with the material world by means of the brain and nervous system, and we are accustomed to say that the brain is the organ of the mind.

The brain is a grayish-white mass lying in the bony box of the skull. It is made up of a wonderful complexity of nerve *fibres* and nerve *cells*. The cells are clustered in groups within the whole of the brain, and also form an outside covering, the *cortex* or bark. Only when certain cells of the cortex are excited do we have a thought, a feeling, a process of will. The fibres serve to join together groups of cells in different parts of the brain; they convey excitations from cell to cell, and from one part of the brain to another.

Nerve fibres are found not only in the brain itself, but also throughout the whole body. Their work is to transmit, as it were, messages

to the brain from all parts of the body, and from the brain back again to the muscles.

Here is a diagram illustrating the action of the brain and the nerve fibres:—



Suppose a wasp to alight on an exposed part of the skin represented by the point A. A message is at once transmitted along the line of nerve-fibres, to a group of nerve-cells B, in the cortex of the brain. Immediately upon the arrival of this message at B, the mind becomes conscious of a sensation which we may term a wasp-sensation. If you ask me what this consciousness is, I give it up. Everybody gives it up. It is one of those things which we all know to exist, but which no one can explain. We will leave it at that.

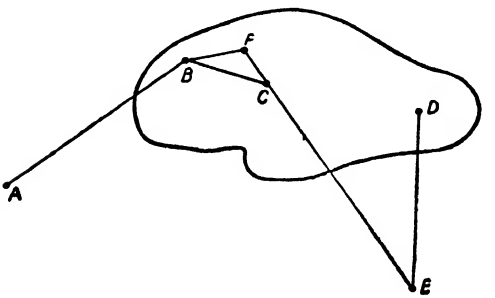
From B, the centre of the wasp-sensation, an impulse goes by nerve-fibre to another part of the cortex, C, whence it is sent to

the muscles at E. These muscles move the arm and the hand to flick off the unwelcome guest. The feeling of movement is transmitted to another group of cells in the cortex at D.

Twice during the foregoing succession of events has consciousness arisen; once when the presence of the wasp was realised at B, and again when the feeling of muscular movement was realised at D.

We might term the chain of happenings that ended in the flicking away of the wasp an impulsive process. It is comparatively simple in its action, and is much favoured by the lower animals, by cowboys who shoot first and inquire afterwards, and by people who habitually say the first thing that comes into their minds.

Take another illustration a little more complex:—



A dishonest person sees somebody else's money lying loose at A. The fact of the presence of the coins is transmitted by the visual process to B. If the whole transaction is to be impulsive, a message goes from B to C; thence to the muscles at E; and the booty is snatched up in much the same way as the wasp is flicked off.

But it may be that at B the current of excitation is split in two, and one of the branches goes to F, the centre for prudential considerations. These suggest that if the money is stolen, punishment will probably follow; and so a message inhibiting further action goes from F to C; and the coins lie untouched.

Thus second thoughts are often best; though not always and necessarily best. What they do for us, is to afford an interval of hesitation; and this interval enables us to form brain-connections which may influence our actions for good or for evil.

With some people, however, the habit of inhibiting the primary course of an outside stimulus which would naturally lead to action, is carried to excess: they check their impulses too much. Shakespeare probably had these deliberative unfortunates in his mind's eye when he wrote: "Equalities are so weighed,

that curiosity in neither can make choice of either's moiety." And again: "And thus the native hue of resolution is sicklied o'er with the pale cast of thought."

The nerves that carry messages from the outer world to the brain are called *sensory*; those that carry messages from the brain to the muscles are called *motor*.

Different areas of the brain communicate with nerves from different parts of the body. Take first the sensory system. There are areas of the brain set apart for receiving excitations of touch—tactile areas; areas set apart for receiving excitations of vision—visual areas; areas set apart for receiving excitations of hearing—auditory areas; areas set apart for receiving excitations of smell—olfactory areas.

Then there are separate motor areas for sending out stimulations to the muscles of the face, the throat, the arms, the legs, and so on.

And lastly there are associative areas, where the nerves connecting one part of the brain with another do their work.

Thus the brain is not really one organ, but many; each separate and distinct; but all joined together by thousands and tens of thousands of minute nerve-threads; the whole forming a network of wonderful intricacy. There is thus in the brain a marked localisation

of function; though this, of course, is a very different thing from the so-called science of phrenology—the conclusions of which are now very generally discredited.

From a study of physiology, especially the physiology of the brain and the nervous system, we may learn much that will help us in our mental life. For instance, when we know how the brain is mapped out into areas, we are able so to regulate our activities of thought, feeling, and will, that we do not fatigue unduly any one of these areas. "A change of work," says the Cornish proverb, "is as good as a touchpipe"; and when a sense of fatigue tells us that we have exhausted the energy of one of our brain-areas, we need not necessarily stop working. By calling into action another tract, we may give the one we have just been using a chance to rest and recover.

At the same time, however, we must not carry this too far. Let a man distribute his activities ever so wisely, he cannot go on working for ever; for, so long as any part of the brain remains active, the others have so many threads of connection with it, that they find absolute rest impossible. In other words, the brain is not built, so to speak, in water-tight compartments, each of which is quite cut off from the others.

Another lesson we may learn is this;—If we wish to do good mental work, we must look well to the body, especially to the nervous system. It is by means of the nervous system that the mind gets in touch with the outer world; and if that is out of order it will give misleading stimuli to the mind, and will also carry misleading stimuli to the muscles. A sound mind in a sound body is the thing to be striven for, and each condition is necessary to the other. That deaf people are suspicious is a matter of common observation, and the mental distortion is directly due to the bodily defect. Irritability is of course a mental trait, and it is a sure accompaniment of certain nervous disorders. Splenetic humours are preceded by, and joined with, nervous disorders. In fact, look where we may, we are faced on every side by examples of the close connection between mind and body.

Now no man would care to be shaved with a razor that had just been used for opening a salmon-tin; and even a Paganini might fail to charm us if he performed on a three-and-sixpenny fiddle. Good work requires good tools in good condition; and efficient mental work requires a sound brain and nervous system. Forgetting, or neglecting this, mediocrity has often sunk to crass stupidity, and

genius has degenerated into madness. Those who would like to inquire further into the physiology of the brain and nervous system, should consult one of the many handbooks that are now available for such a purpose. In this connection, a beginner might do worse than study Huxley's Elementary Lessons in Physiology.

It has sometimes been said that psychology is merely a branch of physiology, and that just as we have glands for secreting tears, glands for secreting sweat, and a liver for secreting bile, so we have a brain for secreting thought, feeling, will; and as it is the work of the stomach to digest food, so it is the work of the brain to digest impressions received from outside, and transform them into facts of mind.

This is not good reasoning; for the action of the brain and nervous system is only one of the *conditions* of a mental process. If we say that fresh air, food, exercise, are conditions which render life possible, we do not mean that they produce life, or are life themselves; they, as it were, run alongside life, are accompaniments or conditions of it. In a like manner, the action of the brain and nervous system is not a mental process, does not produce a mental process, but is simply an accompaniment or condition of it.

Somebody beats a drum; the air is made to vibrate: this process goes on outside the body, and is physical. The vibrations impinge upon the drum of the ear, and a nervous impulse is transmitted along the auditory nerve to the brain: this process goes on inside the body, and is physiological. The mind takes cognizance of the brain-excitation, and consciousness arises, the consciousness of sound: this process goes on in the mind and is psychological.

If we were all stone-deaf, and the outer surface of our skin were sensitive enough, we should feel the air-waves wafted to our cheeks; and we should report the beat of the drum as a touch, not a sound. The vibrations of air are not sound; they are simply and solely waves of air. The brain-excitation caused by the stimulus from the auditory nerve is not sound; it is simply and solely a disturbance of the brain-cells. Sound, in short, is not a physical, not a physiological, but a purely mental phenomenon—with physical and physiological accompaniments or conditions.

One might study physical laws without knowing very much of the laws of physiology; and one might study physiological laws without knowing very much of physics. Doubtless a knowledge of physics would prove of great

advantage to the student of physiology; though he could get along, somehow, without it. In like manner psychology may be studied with no reference to physiology; though such a course is not to be recommended. Indeed, each of these sister sciences helps the other; and if the psychologist can submit his conclusions to physiology for verification, of course the conclusions have a double weight.

In the following pages, many of the facts that are set forth could have been stated in physiological terms. But as this book does not purport to be a manual of physiology, to use physiological terms seems out of place. It would, however, be both instructive and interesting to those readers who are physiologists, if they would try their hands at the translation.

CHAPTER III

CLEARING THE GROUND

"KNOWLEDGE for knowledge' sake, and not because of its applicability to human life." Such was the cry of philosophers long ages ago, and the opinion is not quite dead yet. It survives in some Eastern countries; for instance, travellers tell us that in Burmah, sages are accustomed to sit on their haunches in the sun, smoke black cigars, meditate on the mysteries of religion, and "let the world go hang." In Western lands, however, we are cursed with a climate; moreover many of us find it cruelly hard to make a living. So the white races go strong for the practical; and the life of colossal acquirement, of profound contemplation, divorced from the sphere of action, has gone out of fashion, nay, is regarded with something very like contempt.

"I don't want to study psychology merely as a mental discipline, or in order to stuff my mind with a lot of facts that can be of no

earthly good; but for the sake of the real, substantial benefits the science may enable me to lay my hands on." That, I take it is the attitude of the average Briton. He wants a psychology that will work; one that will help him to make the most of himself.

Now much of the psychology that is in vogue among the uninstructed will certainly not help him very much; on the contrary, it is more likely to prove a hindrance. Ninety-nine out of every hundred people who conceive of the mind at all, conceive of it as a sort of box; their synonym for head is knowledge-box. Minds, the knowledge-boxes, are of different sizes, and probably their sides are elastic. But with all of them, if you go on putting in knowledge, you will at last completely fill them; after that, for every fact that is crammed in, another will be squeezed out. If you want a clear outline of this popular conception, read the confession of psychological faith made by Sherlock Holmes in *A Study in Scarlet*. The brilliant detective is a thorough-going box-man.

Does this box-theory agree with our experience? Suppose you lecture to a mixed audience of engineers and theologians upon some of the technicalities of engineering. If you have given them good stuff, you will have succeeded in putting into the knowledge-boxes of the

engineers many items of knowledge; but, in spite of all you can do, you will not be able to succeed in forcing all the items into the boxes of the theologians. This is not because the theologians are men of less capacity than the engineers, but because the previous knowledge of the latter gives them an advantage in acquiring new engineering facts. So that learning has something to do with previous mental content, and is not merely concerned with the available space in a knowledge-box.

Take another example. In the poem, *The Well of St Keyne*, there is a line which tells how a certain magician "laid on the water a spell." Questioned as to the meaning of this passage, one of my boys explained that the magician was probably tired, and so lay down to rest himself for a while on the surface of the water. The writer of that poem packed six words into my knowledge-box, and the same six words into the knowledge-box of the boy; yet what a difference the previous mental content made.

If we really believed the mind to be a knowledge-box, the best thing we could do would be to pack into it what was likely to be permanently valuable, and take care that precious space was not occupied by lumber. The process would be something like packing one's

trunk before going to reside on a desert island, or of seeing that one's smoking-outfit was complete before starting on a long railway-journey. A careful man, whose mind was full of these essence-of-beef tablets of knowledge would live in constant dread lest some triviality should force its way in, and crowd out something very much more valuable.

Do we treat our minds like this? Do the wisest and best of us even try to do so? A scientist who is investigating some special subject, accumulates hundreds of facts bearing upon the problem he has in hand. By means of these facts he arrives at a general law, and many of the observations that led up to it drop off and are forgotten. There is no suggestion that the facts have been crowded out by others; and as they are no longer needed once the general law is established, their loss is an advantage rather than a calamity.

Another error into which many people fall is that of the "faculty theory." This needs a little explanation.

We can, it is urged, no more know anything by another man's understanding, than we can see by another man's eye; and, accordingly, the true method of psychology is introspection, looking inwards. The senses supply us with experience, and experience pours ideas into

the mind. Having got the ideas in, we should proceed to sort them out, and arrange the mental content in something like order. This would not be so difficult as it is, were not the ideas like spoilt children taken to be photographed: they will not keep still: they are always on the move.

Something moves them. What is it? If we understand the mechanism of the steam-engine, we are able to make it do its work —to guide, control, direct it. And if we understood the mechanism of the mind, we might be able to make *that* do its work—to guide, control, direct *that*. What is the mechanism of the mind?

The faculty theory makes no serious attempt to solve this problem. The mind, it says, observes because it is endowed with the faculty of observation; remembers because it is endowed with the faculty of memory; reasons because it is endowed with the faculty of reason, and so on. This is a system of names rather than explanations. Moreover, just as phrenology has perpetrated the blunder of mapping the brain into a multiplicity of separate and distinct "bumps," so the faculty theory has perpetrated the blunder of regarding the multiplicity of mental operations as so many separate and distinct activities.

And now, having attempted to remove one or two misconceptions, we are ready to ask ourselves the question: how shall we begin our study of psychology?

Of course psychology is merely one branch of philosophy; and, if one were to do the thing thoroughly, the best way would be to study the tree as a whole before concentrating our attention on a particular branch. But that is a big contract. Someone has said—and with much show of truth—that there are as many philosophies as there are philosophers; and the details of any individual system are by no means grasped in a moment. Take, for instance, the school of Idealism, with which the name of Hegel is associated. "The universe," says he, "is an organic whole, in which all things work together for good. Every animal, person, place, or thing has its allotted position and work in this rational universe, and can only fulfil its function by being true to itself, consistent with its own nature. What the laws of this organic whole are, can be discovered only by learning the course of nature."

According to Hegel, therefore, before we can understand the mind of man, we must first understand its position and functions in the organic whole of which it forms a part. But

to solve the problem of the universe seems a long way round to the study of the human mind; and the average man would just as soon think of pushing a boat-hook through the scullery-window in order to draw down the parlour blinds. As a philosophical doctrine, Hegelian Idealism is a magnificent conception, but—at all events for the present—I think it would be best if we left it, and its relatives, severely alone. Psychology proper is our province. Let us guard against being too ambitious.

Now just as there are schools of philosophers, so there are schools of psychologists; and the latter we may perhaps divide into three main groups, viz., the physiological, or new; the analytic; and the synthetic. A few words about each separately.

The physiological school, founded by Fechner, claims to have made psychology an exact science. Its method is to experiment upon the body, and then interpret the result in terms of mind; and it carries on its practical work, at times, with instruments of strange and wonderful name: chronographs, algometers, stroboscopes, pseudoptics, hand-dynamometers, æsthesiometric compasses, and plethysmographs.

It would be impossible to speak too highly of the patience and precision with which the

investigators in this group go about their business. They will tell you to the hundredth part of a second the time taken by an excitation in travelling from the skin to the brain, and thence back again as a motor impulse to the muscles; and they arrive at their conclusions only after hundreds, nay thousands, of separate experiments, each of which has been carried out with the most careful elaboration. Perhaps the mistake they make is in laying too much stress upon physiology, and too little upon psychology. If character is merely a matter of brain and nerve process, why not correct defects by simply operating upon the cortex? A little pressure here, a little stimulus there; the cane gives way to the scalpel; and we send our criminals to the surgeon, instead of to the prison or the reformatory.

Even if one believed that the new school was working on entirely right lines, one would still hesitate to recommend it as of great practical utility in the conduct of life, especially after reading the confession of one of its most eminent disciples. After thirty years of laboratory work, Professor Wundt says: "The service which it (the experimental method) can yield consists essentially in perfecting our inner observation, so understood, or rather, as I believe, in making this possible in an exact

sense. Well, has our experimental self-observation, so understood, already accomplished aught of importance? No general answer can be given, because in the unfinished state of our science, there is, even inside the experimental lines of inquiry, no universally accepted body of doctrine."

There may come a day when the new school will be able to teach the old many valuable lessons, but that day has not yet dawned. Up to now, the former owes far more to the latter than there seems any immediate prospect of its being able to pay. To recommend a busy man to the new psychology would be as bad as sending him to live in a half-finished house; it may be habitable enough some day, but at present the roof is not on.

The analytic and the synthetic schools call for little remark here; they carry their explanations in their names. The difference between them appears to lie chiefly in the size of the unit by means of which each seeks to interpret the facts of mind. With the former the unit is large, and is capable of being analysed, with more or less of precision, into its component parts. With the latter the unit is small; it is, in fact, the single idea; and this school endeavours to build single ideas into complex states of consciousness.

This is no place for controversy. Personally, I hold the conviction that a study of the tenets of the synthetic school is, on the whole, likely to be of the greater practical utility to the average man—for whom this book is intended. The name of Herbart instantly suggests itself in this connection; and, accordingly, in the following chapters I have aimed at an exposition of the Herbartian principles. Or perhaps it would be more correct to say that the matter has been written with a distinct Herbartian bias. Herbart's followers do not necessarily accept everything the master teaches; indeed, there is on some points considerable divergence of opinion among them. Here, if we diverge at times more than is customary, it will be in the endeavour to make our psychology fit in more closely with the facts of observation as we ourselves conceive them. In other words, theory must bend to fact, not fact to theory.

CHAPTER IV

THE BEGINNINGS OF MIND

JOHANN FRIEDRICH HERBART was born in Germany in 1776. At an early age he became familiar with religious and philosophical doctrines and discussions, and in his eighteenth year he put himself under the tuition of Fichte. In 1805 he was appointed extraordinary professor of philosophy at Göttingen; in 1809 he went to Königsberg as Kant's successor, but in 1833 returned to Göttingen, where he remained till his death in 1841. His collected works were published by his pupil Hartenstein in twelve volumes. He was one of those happy men who have a biography but no history.

According to Herbart, the mind, at birth, is a homogeneous whole—for all the world like a lump of putty. It has no organs, no special parts; sample it where you may, you will find every portion of it exactly like every other; tastes, predispositions, capacities, of a local character, it has none.

It is not, however, quite without properties. It has the property of *vis inertiæ*. That is to say, left to itself, it would remain forever without contents; it is sluggish to be changed by impressions from outside; and, once changed, it is sluggish in returning to its former condition. It has also the power of reacting upon the impressions it receives from outside. But these two properties of *vis inertiæ* and reaction are in no sense local; they are not possessed by any one particular portion or department of the mind; they are possessed by the mind as a whole.

It would be difficult to think of anything more negative in character than the mind as Herbart conceives it. It has only three positive qualities: it is homogeneous, it has *vis inertiæ*, and it has the power of reacting upon impressions. Nitrogen is perhaps one of the most negative things in the material world; but nitrogen bristles with positive qualities when compared with the mind at birth—according to Herbart.

But Herbart goes a step further. He maintains that the minds of all are absolutely and entirely equal at birth. The child of the Australian blackfellow, so far as mind is concerned, is as well endowed as the progeny of the University professor; the Lord Chancellor

started from the same mental level as the costermonger; Sir Isaac Newton, before he dropped his first apple from a baby fist, was in no way the intellectual superior of the infant who subsequently became an agricultural labourer and died without ever being able to count a hundred; and there was a time when the critic who appraises this book had no better mental equipment than the writer of it. Alter the proverb, "One man is as good as another" into, "One new-born child's mind is as good as another's," and you have Herbart's meaning in a nutshell.

This seems a very startling conclusion, but Herbart does not flinch from it. And when you come to consider the matter carefully, it loses some of its apparently wild impossibility. The mind can only be roused from torpor by its reaction upon the ideas presented to it. The ideas must, in the first instance, come through the senses. The senses depend upon the body. Well, Herbart does not maintain that all *bodies* are born equal; and so, though minds may be equal at birth, they soon lose their equality in proportion to the difference between the bodies. To take an extreme instance, a child born blind would be deprived of a whole class of ideas that would enrich the mind of one endowed with the blessing of

sight, and a corresponding difference in mental growth and development would speedily show itself.

Then there is not only a difference in the bodily senses which act as stimuli to the mind; there is also a further difference in the bodily environments which act as stimuli to the senses. Contrast the lot of a child brought up in a city slum with that of one reared in a wealthy, cultured home. The latter would be able to drink deep of ideas from nature and art in their finest aspect; music, literature, refined associates, a moral atmosphere: all these and more would be his. The former would know little or nothing of the best things in nature and art; his music, literature, and associates would be debased and corrupt; and he would be reared, perhaps, in an immoral home. The divergence between these two types would inevitably be most marked. "Love grows by what it feeds on," says the poet. So does the mind. And may not the infinite diversity in environments be quite sufficient to account for the infinite diversity of minds?

My own experience inclines me to the opinion that mental diversity—at any rate among boys of from seven to fourteen years of age—is less than is generally supposed. From first to last, I have had at least ten thousand

of them under my immediate control; and my present number is over four hundred. What have I found? About four per cent. are clever, four per cent. dunces, and the remaining ninety-two per cent. I should class as average. In many instances, the clever boys are exceptionally well-endowed in the matter of bodily senses, and they come from homes where the environment conduces to mental activity. Not infrequently the dunces have bodily defects which impair the sense-organs, and come from homes where the mental environment is more or less stupefying. If this be true after the varying factors of sense and environment have been at work for several years, is the assumption that all minds are born equal so very heinous? And it should, moreover, be remembered that the above percentage is calculated upon a narrow basis, viz., the ability to learn school subjects; had it been founded upon swimming, carpentry, or cricket, the results might have been very different.

An interesting point that may not be out of place here is this: A boy who is a dunce at school is not necessarily a dunce in after life. Neither Sir Walter Scott nor Robert Louis Stevenson gained many academic distinctions, and Oliver Cromwell has not come down to us as a prodigy of learning. Physiology has

much to say on this point. The bodies of different children grow and develop at different rates, and growth and development of body influence growth and development of mind. Children who are growing fast often manifest less mental activity than those who are growing slowly. It is often your little fellows who are smartest in class; but give the big ugly duckling time to grow, and some day he may be able to show his dapper little comrade how to fly.

Eliminate, then, from the mind, all the content that it acquires by the experience of life; deprive it of innate tastes and properties other than those which have been enumerated; and there seems no insuperable reason why we should not regard all minds as being born equal. This may be true, or it may be false; we can never really know; for by the time we are able to make valid observations, the child has had time to diverge from his fellows. Anyhow, we need not greatly concern ourselves on the point; it does not, perhaps, matter very much. Herbart certainly maintains that initial equality exists, but he does not make this the corner-stone of his teaching; one might very well reject it, and yet accept Herbart's subsequent doctrine of mind-building.

I, myself, should be inclined to modify the conception as to initial equality in something like the following manner: Deprive the mind of faculties and local differences — just as Herbart does; let the equality go as far as that. But let there be variation, between different individuals, in the two basic properties of the homogeneous whole, viz., in the *vis inertiæ*, and in the power of reacting upon stimuli. In this way, you might begin with what one may term minds of first-class, second-class, and third-class calibre.

Carlyle, in his *Heroes and Hero-Worship*, maintains that the great man is intrinsically great, and that a great engineer might have been a great statesman, warrior, writer, or musician. But note that the statement is "might have been." That a man who is a great engineer at fifty might afterwards become great in other, and widely different, walks of life, the Herbartians would emphatically deny. Catch him young, and he might have a chance; otherwise, the thing would be hopeless.

"I know," I once heard a highly-successful business man say, "that in my own particular department of trade, I am at the top of the tree. Once I thought of becoming a schoolmaster. If I had carried out my intention, I

would have got to the top of the tree there too." Possibly he was right. Certainly he had three very forceful gifts—a big head, a square chin, and red hair.

On the whole, the dictum of Professor Adams seems to agree best with common-sense and experience. A combination, he tells us, of the Carlylean doctrine of the convertibility of greatness, and the Herbartian conception of mind-building, makes the best blend. With the whole range of philosophy before us where to choose, we need not stir a foot farther afield.

CHAPTER V

HOW IDEAS GET INTO THE MIND

How do ideas first find an entrance into the mind? Man enters into life as a stranger; he knows nothing of the world that receives him; it is, to him, a new, unknown country which he must explore and may conquer. How is this to be done? Where do the ideas that are to guide and direct him come from? They proceed from outer stimulation, and come into the mind by way of the senses.

The atomic theory in chemistry says that the material world is built up of atoms, and that the atoms are of many different kinds; a bar of silver is built up of atoms of silver, a bar of iron is built up of atoms of iron, and so on. The Herbartian theory in psychology says that the mental world is built up of sensations, and that the sensations are of many different kinds; a visual idea is built up of sensations of vision, an auditory idea is built up of sensations of hearing, and so on. As

the unit of the material world is the atom, out of which all materials and combinations of materials are built up, so the unit of the mental world is the sensation, out of which all ideas and combinations of ideas proceed. A sensation is thus an elementary mental process; by the most persistent introspection, and under any conditions whatsoever, it cannot be split into anything simpler.

I have before me a piece of sugar. Rays of light are reflected from it, penetrate the eye, and reach the dark lining at the back of the eye, the retina: this process is physical. The retina contains the extremities of the optic nerve, the microscopic rods and cones. From these, the vibrations of the ether are transmitted in a modified form along the optic nerve, until they reach a group of cells in a certain area of the brain: this process is physiological. Materialists would say that there is no third process, but that the consciousness of the sensation is merely another name for the vibrations of certain brain-substance. Herbart, in common with most other psychologists, would say that the excitation of the brain-cells acted upon the mind, which reacted upon the impression in the form of consciousness of the white sensation: this process is psychological.

If I put my tongue to the piece of sugar, the nerves of taste are excited; these conduct the impression to the brain, where they excite certain nerve-cells, but not the ones that were excited by the optic nerve. The excitation of the brain-cells acts upon the mind, and the mind reacts upon the impression in the form of consciousness of a sensation of sweetness.

If I place the sugar on my hand, vibrations pass along my nerves to the tactile area of the brain. There, again, the excitation of the brain-cells acts upon the mind, and I become conscious that the sugar has weight.

Just how it is that material vibrations can act upon non-material mind is, as Lord Dundreary might have said, "One of these things that no fellow can understand." But we need not necessarily disbelieve it because of that. No man—not even the most ignorant—understands many of the commonest phenomena. Behind all matter, as Herbert Spencer puts it, there is a mystery too deep for the human mind to plumb.

"Flower in the crannied wall,
I pluck you out of the crannies,
I hold you here, root and all, in my hand,
Little flower—but *if* I could understand
What you are, root and all, and all in all,
I should know what God and man is." [1]

[1] Tennyson.

A mighty big *if*, that! Where is the finite intelligence that can remove it?

Let no man, then, we say, look down upon the senses, for sensations are the ultimate units out of which intellect, feeling, will, character, are built up. The time spent by children at play in the open air is not wasted; on the contrary, such play is, in reality, mental building. Days occupied by field-sports, though they are said not to count in the length of life, certainly count in the development of the mind. And the attention at present paid to educational handwork is claimed as producing not only a better, but a different type of mentality. Of course we need not ride this horse to death. Some people think we are already doing so.

In childhood and youth the senses are insistent, tyrannical, and rightly so; a mouse running across the room, or a smut on the teacher's nose will ruin the most interesting lesson. Later in life the senses lose much of their edge; and even if they were equally acute, they would lose their *relative* importance, for they have to enter into competition with a mass of other ideas already present in the mind. Indeed, when we are deeply occupied with internal ideas, external ideas often find it difficult to obtain admittance.

The boy who is intent upon a tale of pirates on the Spanish Main, really does not hear—however much a sceptical mother may doubt his word—when he is called to take a message to the grocer; and was it not Sir Isaac Newton, who, plunged in reverie, used a lady's finger as tobacco-stopper? Wounded soldiers often fight on for some time without feeling their hurts. Heroes, martyrs, religious devotees, obsessed by great ideas, probably do not experience half the painful sensations we give them the credit for suffering.

But if it is mind, says someone, and mind alone, that is cognizant of sensation, may not this be so organised as to refuse to respond to outer sensations at all? In other words, could I not live a mental life, apart from, and quite uninfluenced by, the life of the body? Doubtless a complete realisation of this object is impossible — and perhaps undesirable — yet much may be done to render the developed mind comparatively independent of bodily surroundings. Should one want a magnificent example of how organised mental content may at all events *dwarf* mere sensation, could one find a better example than that of St Paul? "Of the Jews," says he, "five times received I forty stripes save one. Thrice was I beaten with rods, . . . thrice I suffered shipwreck, a

night and a day I have been in the deep; in journeyings often, in perils of waters, in perils of robbers, in perils by mine own countrymen, in perils by the heathen, in perils in the city, in perils in the wilderness, in perils in the sea, in perils among false brethren; in weariness and painfulness, in watchings often, . . . in cold and nakedness. Besides those things that are without, that which cometh upon me daily, the care of all the churches." And yet, such was the apostle's organised mental content, that he could count all these hardships as "nothing."

Coming back to our lump of sugar, we find that the mind of the child receives from it three sensations, viz., whiteness, sweetness, and weight. Adults never experience a sensation pure and simple; for all these are more or less mingled with ideas stored up in the memory and now recalled to consciousness. The child, however, may be supposed to have such ultimate stimuli absolutely pure. When his three sensations of whiteness, sweetness, and weight coalesce, and the mind refers them to some material object actually present—that is to the sugar—the process is called *perception*, and the complex memory of sugar is retained by the mind as a *percept*. So that we may define a percept as a group of

sensations referred to a material object actually present.

Having once experienced that a lump of sugar is white, sweet, and heavy, the child's three senses need not all be acted upon again in order that perception shall take place. The sight of sugar, for instance, would recall the stored-up ideas of sweetness and weight, and perception would occur. So that part of what we perceive comes through our senses, and from the object before us; another, and often the larger, part is called up from the previous content of the mind.

If we are exercising our perceptions in listening to speech, many of the words we seem to hear, we do not really hear at all, but supply them from our minds. We understand a language with which we are familiar, even when it is spoken quickly, indistinctly, and in low tones. Whereas an unfamiliar tongue is unintelligible under these conditions; for the ideas by which we could interpret the sounds are not readily accessible, and do not start up at so faint a call. "I could understand those Frenchmen," is a remark one often hears from a protesting Anglo-Saxon, "did they not speak with such a confounded speed." He would have understood one of his own countrymen well enough, even though the latter's English

might have been uttered twice as fast as the foreigner's French. "Practised novel or newspaper readers," says Lazarus, "could not possibly get on so fast if they had to see accurately every single letter of every word in order to perceive the words. More than half of the words come out of their minds, and hardly half from the printed page."

As perception, then, depends upon two things—a sensation from outside, and reproduced sensations from within, it follows that, should either of the two make a mistake, there will be corresponding error in our full perception. Such mistakes often occur, and the sensation from outside usually gets the blame—which it does not always deserve. At so-called "materialising séances" which fraudulent mediums give in a darkened room, a man sees a gauze-robed figure who whispers to him that she is the spirit of his dead sister. The darkness, the expectancy, and the carefully-planned suggestions of the supernatural, have so filled his mind with premonitory images, that it is no wonder the man thinks he sees what is suggested to him. He *does* see the gauze-robed figure; the perception from outside is true enough; it is the mental content called up that is false. "These fraudulent séances," says Professor James, "would furnish

most precious documents to the psychology of perception, if they could only be satisfactorily inquired into."

In this connection the following story seems apposite:—A certain naturalist kept a box of poisonous snakes in his house. One day, the box was broken by a clumsy servant, and the snakes escaped. A search was made, and all the fugitives were recaptured, except one, which could not be found. That night, the gardener, a very nervous fellow, who slept in the house, went to his bedroom in an attic. After turning down the sheets, and lifting the pillows, to make sure that the snake was not there, he sat down on the edge of the bed. As he was idly swinging his leg, and speculating on the whereabouts of the snake, he heard a hiss, and felt a stinging, smarting sensation on his calf. Jumping up in alarm, he ran out of the room, crying, "The snake! The snake has bitten me!" For some hours he suffered acutely from all the symptoms of the snake-bite, but, after a narrow escape from death, he began to come round. When he had sufficiently recovered to tell his story, his room was searched, and, under the bed was found not the snake, but a sitting goose, which the man must have known to be there. A wrong perception had taken place, but the stimulus

of outer sensation was not to blame. The fault lay with the perceptions erroneously called up from within; it was the interpretation that did the mischief. The whole subject of perceptual delusion, illusion, hallucination, is peculiarly fascinating, but we cannot do more than touch it here.

Let us return once more to our consideration of the sugar. Suppose I have only exercised my senses upon one particular lump. In that case I have stored up in memory a percept of sugar, and whenever I think of such a substance I shall form a mental image or picture of that particular lump. By and by, my experience becomes enlarged, and I find that some sugar is white, some brown, some crystalline, some granular, and so on. I have, in fact, formed a number of individual percepts. These coalesce into a *concept*. When I think of sugar now, I do not form a distinct picture of any particular specimen I have met with. What is in my mind is a kind of composite image, formed by the union, fusion, or coalescence of many—in which union individual differences are blurred, and only the common features stand out clearly.

The concept we have taken by way of illustration, viz., sugar, has a very narrow range. Sugar is an organic compound; and if we took

this term instead, we should greatly extend our field of observation. Indeed we should meet with so many examples, and they would differ so widely in their properties, that we should not be able to form a mental picture or image at all. The more abstract the concept, the more dim and shadowy are the reminiscences of images that it calls up.

We will conclude this chapter by a brief summary and application.

The unit out of which mental content is built up is the sensation. The stimulus for the sensation is supplied by the senses.

Sensations coalesce to form percepts. In the process of perception, there is, after a very brief period of infant existence, often but one sensation from outside, the remaining factors of the perception consisting of those which are reproduced, or recollected.

Percepts coalesce to form concepts, which are more or less abstract.

Mental life is thus a process of development, first sensation, then perception, then conception. "It is the beginning that counts," says the proverb. This is eminently true of mind-building, and the need for sense-cultivation is imperative. Sports, both indoor and outdoor, calling for a skilled combination of hand and eye; manual-training, physical exercises; a

systematic habit of observation: all these educate the senses, and so help to supply materials for mind-building. But there is danger that we should lay too much stress upon the beginning, and too little upon the continuation, of the process. The senses of the Red Indian are probably finer, keener, better all round, than those of the Englishman: it is in subsequent development that the Indian fails. The criterion of mental development is the power of forming abstract notions or concepts.

Cultivate your senses; let your perceptions be accurate and precise; form the habit of making concepts, gradually enlarge their scope, and insist, once more, upon accuracy and precision: these are the three "rules of the road," the road that leads to a well-developed mentality.

In the following pages we shall speak of sensations, percepts, and concepts, as "ideas." We have shown how these find an entrance into the mind. What the mind does with them when they get there, and the machinery by means of which it combines them into more complex aggregates, we have now to consider.

CHAPTER VI

CONSCIOUSNESS

IDEAS, we say, form the content of the mind. But it is perhaps necessary, at this point, to guard against a misapprehension. When we speak of "ideas," we do not intend the expression to mean that some things called ideas have detached themselves from external objects, and gone into the mind. You do not put ideas into your mind as you put money into your pocket—where the pocket is one thing, and the money, unfortunately, is another. As a result of the stimulus given by the senses, there is formed in the mind a certain state or condition, and this state or condition we call an idea. Ideas, therefore, are mind-conditions, or mind-states. If we place in a test-tube a little brimstone, and apply heat, the stimulus of the heat does not put any fresh substance into the brimstone, but causes it to change its state in several interesting ways. There are brimstone states or conditions, and there

are mind states or conditions, the latter answering to the name of "ideas." The comparison between the mind and brimstone is gross, but it may stand.

At any given moment, most of our ideas are out of consciousness, that is, we are not thinking of them just then. Those that are present, form what has been variously termed the wave, the stream, the field, of consciousness. Now this wave, stream, or field, is never composed of one idea alone, but of several: it is complex. It contains, in all probability, a curious mixture, a strange jumble of bodily sensations, impressions of objects around us, memories, feelings, and determinations of will.

In most of our states of consciousness, we find the above ingredients mixed in varying proportions. Sometimes bodily sensations bulk largely, sometimes reason, sometimes will, and so on. But we never have a field of consciousness made up of one of them alone. However prominent and distinct one of them may be, there is always a background of others.

As a rule, we have before us some object of thought which is the focus of our attention. If we represent our field of consciousness by a circle, and the focus of our attention by the

centre, then the ideas that are present will possess degrees of distinctness corresponding to their distance from the centre.

Perhaps the most wonderful thing about these fields of consciousness is the way in which they chop and change. Sometimes one, as it were, dissolves gradually into another. Sometimes the focus remains unchanged, but the margin alters. Sometimes there is a sudden, kaleidoscopic transformation of the whole. We cannot make an exact classification of these variations; the most we can do is to say that in every field of consciousness there is a kind of practical unity—one case we call a state of doubt, another a state of certainty, a third a state of emotion, a fourth a state of determination, a fifth a state of abstraction, and so on.

At the present moment, my field of consciousness is occupied, among other things, by thinking out my subject, writing down my conclusions, experiencing the uncomfortable sensation of writers' cramp, remembrance that the children have gone to bed, a tired feeling, determination to finish this section to-night, and a muscular tension in the muscles of the jaw, due to holding my pipe in my mouth. The focus of attention is thinking out my subject. Close to that comes writing down

my conclusions. The rest of the ideas are more or less marginal. When my attention flags, the idea of cramped fingers, or that of my pipe having gone out, usurps for a time the focus. If someone were to throw a stone through the window before which I sit, there would be a total change of the whole field.

Let us remember, then, that our fields of consciousness:—

1. Are always complex.
2. Always consist of a focus and a fringe or margin.
3. Are continually shifting and changing.
4. Can only be classified roughly, according to their prevailing tone.

You will observe that the above is an outline of consciousness as we find it when we look into our own minds: we have been using the method of introspection. Our examination has been analytical; that is, we have been splitting up our consciousness, as we observed it, into its parts. What we saw, we described; and descriptive psychology professes to concern itself solely with facts.

"Facts alone," said Mr Gradgrind, in *Hard Times*, "are wanted in life. Plant nothing else, and root out everything else. You can only form the minds of reasoning animals upon

facts: nothing else will ever be of service to them. Stick to Facts, sir." Well, descriptive psychology is after Mr Gradgrind's own heart; it sticks to facts.

But Herbart was not content with descriptive psychology. It did not go far enough for him. When he had got his facts by the method of analysis, he wished to go a step further, and explain them. So he formulated his synthetic theory, by which he attempts to build up mental content from units of sensation.

Ideas, he teaches, are by no means socialists; they are always competing with each other for a place in the mind. "Nature," says Lange, a prominent Herbartian, "assails the senses with a thousand allurements; she sends the rays of light that she may open the eyes to the innumerable things of the outer world; she knocks upon the door of the human spirit with excitations of tone and touch, and all the other stimulations of the sensitive nerves, desiring admission." And the poet George Herbert, who was not a prominent Herbartian, expresses the same thought when he tells us that "More servants wait on man than he'll take notice of." There is a keen competition in service; ideas struggle with each other, as it were, to find entrance into man's mind.

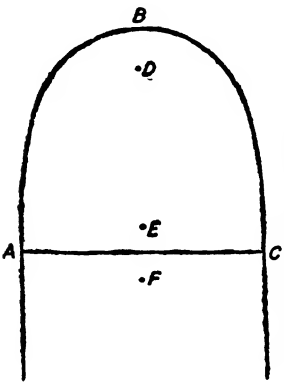
just as a man would rather be a town

clerk than a town scavenger, so, in the eyes of an idea, all places in the mind are not of equal value. Here Professor Adams has a very illuminating conception. He regards consciousness, not as a field, a wave, a stream, but under the figure of a dome, the summit of which is the post of honour for which all the competing ideas strive. The nearer to the summit an idea can get, the better is it pleased; though, considering the great crush, it ought to esteem itself lucky if it gets into the dome at all. At the summit of the dome the idea is clear and distinct; in Lloyd Morgan's words, it is "focal." Low down in the dome, it is dim and languid —Lloyd Morgan's "marginal object," and William James's "fringe." The nearer the base it finds itself, the more dim and languid does it become.

Unfortunately-placed ideas, with the motto of "Excelsior" to spur them on, may make a mighty effort, and climb to the summit; or, in spite of all they can do, they may be compelled to sink below the base. Here they are out of consciousness it is true, but not out of our existence. The base of the dome is termed the threshold, the threshold of consciousness.

In the accompanying diagram, if ABC represent the dome of consciousness, and AC the threshold, the idea D will be near the summit,

E low down in the dome, and F below the threshold, out of consciousness, though not out of the mind altogether.



When an idea enters the dome as a complete stranger, its visit seldom lasts long; it soon sinks below the threshold. If it wishes ever to return, it must make hay while the sun shines; it must form friendships and connections with the ideas it meets, or it will stand a very poor chance of recall. For instance, if a man who knows nothing whatever of chemistry, reads that "methyl is one of the organic compounds," what happens? That particular idea has certainly managed to get into the dome; but it very soon sinks below the threshold; and, having failed to meet with a single congenial spirit, it is probably never heard of again. People who read column after column of disconnected scraps, never pausing to reflect between the snippets, their sole object being to fill the tedium of mental vacancy, are taking into the dome ideas that almost immediately

dart downwards and are lost in an oblivion likely to be everlasting.

Once an idea has formed an alliance with others of a similar nature, each member of the group is loyal to the rest, and when it is recalled to the dome it does not forget old friends. As it struggles upwards to the summit, elbowing enemies cavalierly aside, it makes a gallant attempt to carry its associates along with it.

Suppose a schoolboy reads the words, "Johann Friedrich Herbart was born in 1776." The idea probably finds nothing in the boy's mind to which it can link itself; so it drops below the threshold, and is lost. But should a well-informed man read the words, the idea will be able to connect itself with the mass of ideas clustering round the expressions, "Germany," "Pedagogics," "Psychology"; and whenever any one of these returns to consciousness, it will do its level best to bring the idea of Herbart's birth along with it.

William James terms the formation of friendships among ideas, the Process of Association, and says that it follows two fundamental laws, the Law of Contiguity, and the Law of Similarity.

In the Law of Contiguity, one idea is said to recall another because the two were

formerly neighbours in the mind: they were contiguous. If I begin to recite the alphabet, and stop short at the letter C, I cannot help thinking of the letter D; the two were formerly neighbours in the mind, and C drags up its friend D. When a boy is learning French, and his teacher, pointing to a horse, utters the word "cheval," the sound and the visual image are in consciousness together; so when either of them is recalled, it tends to recall the other. These are cases of association by contiguity.

The Law of Similarity says that, when contiguity fails to describe what occurs, the idea recalled will prove to resemble that which recalled it, even though the two were never experienced together before. Why does a certain type of man always remind us of a sparrow? Probably we never saw him in the presence of a sparrow, so this cannot be a case of association by contiguity. But he has a brightness of eye, a habit of regarding us with head inclined to one side, and a certain dapper, inquisitive combination of impudence and timidity, which seems very sparrow-like. This is unquestionably a case of association by similiarity.

"The words of a poem," says William James, "the formulas of trigonometry, the

facts of history, the properties of material things, are all known to us as definite systems or groups of objects which cohere in an order fixed by innumerable iterations, and of which any one part reminds us of the others. In dry and prosaic minds, almost all the mental sequences flow along these lines of habitual repetition and suggestion" (Law of Contiguity). "In witty, imaginative minds, on the other hand, the routine is broken through with ease at any moment; and one field of mental objects will suggest another with which perhaps in the whole history of human thinking it had never once before been coupled. The link here is usually some analogy between the objects successively thought of—an analogy often so subtle that although we feel it, we can with difficulty analyse its ground; as where, for example, we find something masculine in the colour red, and something feminine in the colour pale blue, or where, of three human beings' character, one will remind us of a cat, another of a dog, the third perhaps of a cow" (Law of Similarity).

Chr. Ufer would expand the laws of association as follows:—

The Law of Similarity. If to-day we look upon a landscape similar to one which we have

previously observed, the image of the latter will soon stand before the mind again.

The Law of Contrast. The discomfort of the Prodigal son suggested to him the comfort of his old home.

The Law of Succession or sequence. This is exemplified in the learning of the alphabet.

The Law of Co-existence. After Pharaoh had released the butler from prison, the latter forgot his promise to Joseph. Pharaoh's dream subsequently reminded the forgetful man of his own (similarity) and its interpretation (sequence); and then he recalled also Joseph's request made at the same time (co-existence).

In the mechanism of the mind, these laws of association are largely self-acting; they go on without any conscious effort of attention; this kind of attention is termed *passive*. But when we make a conscious effort to link our ideas, we call the process reflection, and this *is active*. Reflection is absolutely necessary to a well-organised mental content.

While I write this, the grocer's boy is standing outside the door, waiting for the basket in which he has brought up a quantity of groceries: sixteen different articles that basket contained. A servant with no conception of system might dump the things

down together in one hap-hazard spot—cheese, jam, sugar, matches, bacon, and so on, all cheek-by-jowl in higgledy-piggledy fashion; one who was orderly, and had "a place for everything and everything in its place," would sort them out, and put each on its accustomed shelf. Many people deal with mental content as an untidy maid deals with groceries; they take in information without stopping to reflect where it should be bestowed; and when they want it again they have needless trouble in finding it; indeed, very often it is quite lost. Systematic reflection is as useful in arranging mental content as it is in arranging the contents of a cupboard.

Memory depends upon the laws of association, or, in Herbartian terms—as we shall shortly see—upon the formation of groups of ideas, *apperception-masses*. A good memory is characterised by five things:

1. The process of learning must not call for too much effort (ease).
2. What is taken in must remain unchanged (faithfulness).
3. This must be lasting (permanence).
4. It must be easily recollected (reproducibility).
5. It must have a wide range (extensiveness).

When we take in ideas, and group them according to the laws of association—that is to say naturally—we use the *judicious memory.*

If we have to commit to memory facts that have no natural connection, we use the *ingenious memory.* When, for instance, we try to impress upon our minds the names of the notes in music which have their positions on lines in the treble clef; and when we do this by repeating the sentence, "Every good boy dislikes falsehood," we use the ingenious memory.

In cases where we can employ neither the judicious nor the ingenious memory, such as in learning long lists of disconnected names, we fall back upon the mechanical memory.

Wherever possible, we should, of course, always employ the judicious memory; and the others are of comparatively little educational value.

"There is," says Professor Lloyd Morgan, "much discussion of the question how far memory is susceptible of improvement. It is probable but not certain that retentiveness, upon which remembering and recollecting ultimately depend, is a physiological datum, something given in the quality of the brain-substance, something which we can no more alter than we can change the size of our

skulls, or, to take what is perhaps a closer analogy, the size of our muscles. By careful use and training we may develop our muscles within the limits assigned by nature. So, too, by careful exercise we may perhaps develop retentiveness in ourselves and our pupils within the limits assigned to it by nature. But the limits are probably narrow—narrower than in the case of muscular development. Be this as it may, there is no question that the act of recollection can be cultivated, and is susceptible of much improvement. If what is sometimes called the casual memory is a natural gift—the systematic application of memory is an acquired art, and an art that is eminently serviceable in daily life and in framing a system of knowledge."

CHAPTER VII

A BIT OF MENTAL MACHINERY

In our last chapter we stated that ideas, if they wish to stand much chance of being recalled to consciousness, must enter into amicable relations, connections, with others. Each of these coteries of friends is called an *apperception-mass*; and, according to Herbart, all our mental life is spent in forming new apperception-masses, enlarging old ones, and combining the masses into groups, the groups into systems, and the systems into a whole which is a great complex.

The emporium of a Universal Provider consists, let us say, of so many counters, so many departments, and so many shops. The counters are combined into departments, the departments into shops, the shops into one vast emporium. If the proprietor came to town with the proverbial half-crown in his pocket, he probably started with one counter, and it was by a process of synthesis, building-up,

that he developed his trade. His entire business life was spent in forming new counters and departments, enlarging old ones, and combining new and old into one great organic whole.

The parallel between the building-up of apperception masses and the development of a business is instructive. There is, however, one remarkable difference between the methods by which they are usually carried on. For, whereas the business man knows exactly what he wants, and always works to a definite plan, the man who wishes to build up his own mind is often extremely vague in his aims, which he pursues with a lamentable lack of system. Bret Harte speaks of a scheme for conveying water from a place where it could not be found to a spot where it was not wanted. The average man's life is full of such enterprises.

To return, let us now try to get a more intimate knowledge of the mechanism that constructs apperception-masses. The Herbartians in general say that knowledge is necessary for the assimilation of knowledge: and they give the name "apperception" to the process by which old knowledge absorbs, combines with, assimilates, the new. This is the side of the doctrine of most importance to practical men; but some are curious to know how, according to Herbart, the first knowledge gets a start.

The original mind, though extremely negative in character, is, as we have already seen, not entirely without qualities: it can react upon impressions. For instance, all that a bell does when it rings is to set the air vibrating. The vibrations pass into the ear, and stimulate the auditory nerve. This nerve-excitation is conducted to the brain, and the mind responds in the sensation of sound, which must be considered as something quite different from the vibrations of air set up by the bell; the vibrations of air are contributed by the material object, the bell, but the mental response that we know as sound comes from the mind. In this way, it is possible for a knowledge of sounds to serve as interpreting ideas. We have thus, in distinction from the apperception in which previous knowledge is involved, a primary apperception, without which we should never know anything.

Having thus seen how knowledge gets a start, let us next consider in what manner the apperception process is continued. Herbart divides the ideas which build up the masses into three groups: similar, disparate, and contrary. The idea of the smell of violets to-day is practically identical with the idea of the smell of violets yesterday: these two ideas are similar. The idea of the smell of violets is quite

different from the smell of pepper; they are both ideas of smell, but of different smells; these ideas are contrary. The smell of violets and the knowledge that it is now ten o'clock have so little in common that it would be absurd to compare them: these ideas are called disparate.

The only way in which ideas can become related to each other is for them to be present at the same time in the dome of consciousness; but some pains should be taken to establish relationships. If a man sits down to build up an apperception mass clustering around the central core, say, of "Literature," and if he takes in new ideas rapidly, without pausing to recall to consciousness old ones with which the new may be naturally combined, he will find that he has formed, not an organised apperception mass, but a jumble of disconnected fragments, which will serve to confuse him, and which he will speedily forget. An amusing instance of this is given by Besant and Rice in *The Golden Butterfly*, when Gilead P. Beck, a quite illiterate man, buys the complete works of Browning, Swinburne, Ruskin, and Carlyle, and attempts to master their contents in three days. Learning has been compared to breathing; inspiration to the taking in of new facts, expiration to the

recall of old ones and their union with the new: the latter process is called reflection.

In their co-presentation in consciousness, ideas act differently upon each other according as they are similar, contrary, or disparate. We may see this more clearly by an illustration.

Say we have a sheet of tin. Putting this flat on the table, we strike it sharply with a hammer, and in such a way as to make a circular dent. We then strike this dent a second time with a *similar* blow, which makes the dent deeper. In like manner, when similar ideas find themselves together in consciousness, they combine in a homogeneous whole, and thus become more powerful in resisting attempts to drive them out of consciousness. Thus, the idea of violets that I have to-day, combines with the idea of violets that I had yesterday and that I now call up to recollection. The result is not a new idea, but a strengthening of the old one. This is called *fusion*. Similar ideas fuse; they deepen the impression.

Strike the sheet of tin in a different place, then turn it over, and strike a blow of equal force on the convex circular dent which the first blow produced. The two blows are *contrary*, and the second has practically effaced the impression made by the first. In the case

of contrary ideas there is this opposition; the action these have upon each other is called *arrest*; contrary ideas arrest each other. The idea of the smell of violets is contrary to the smell of pepper. Both are smells, but contrary to each other. Try to think at the same time of both, and one of two things will be likely to happen: either you find yourself able to think of neither, or you think of both in rapid alternations.

Again, strike the tin in a different place, and then repeat the blow on the same side of the tin, in such a manner as to produce two circular impressions touching but not overlapping each other. Call these blows *disparate*. They have produced what we may call a *complication* of two circular dents. Similarly, at a country fair we see the shows, the round-abouts, the sweet-stalls, and we hear the cries of the showmen and the voices of the crowd. All these disparate ideas are present at the same time in consciousness, and form the complication of the country fair. Or a man who passes a bed of violets at ten o'clock in the morning has a complicated idea in which the smell of violets and the idea of the time of day are combined without being commingled: this is a process not of fusion, not of arrest, but of complication.

To sum up, let us remember that similar ideas fuse, contrary ideas arrest each other, and disparate ideas form a complex, a more or less complicated whole. But in order to act upon each other they must be present together in consciousness.

We are now in a position to understand the process by which apperception masses begin to be formed in the mind. So far, we have regarded each idea upon which the mental machinery is set to work as one and indivisible. But if two complex ideas are present, what happens then? What is similar in both at once fuses; what is disparate forms a new complex; while the contrary elements oppose each other, and the fusion of the two complex ideas is said to be arrested at this point. This combination of fusion, complication, and arrest, is, say the Herbartians, the source of all the activities of the mind.

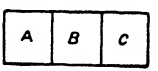


FIG. 1

FIG. 2

A·D

FIG. 3

This might be shown by a diagram in the following way: —Let fig. 1 represent a complex idea formed of the three simple ideas, A, B, and C. Let fig. 2 represent a complex idea formed by the three simple ideas, D, E, and F. And let D be similar to A, E contrary to B, and

F disparate to C. Then when the two complex ideas represented in figs. 1 and 2 are present at the same time in consciousness, a new complex is formed, as represented in fig. 3. Here A and D are fused, and a mental impression deeper than either of them separately was capable of making is the result; while B and E arrest each other; and C and F join, and help to make a third complex still more complicated than either of the original two.

Consider an example of the way this mechanism works in common life: Suppose I have only seen a dog once; and suppose, for the sake of simplicity, that only three ideas about it have struck me, viz., its bark, its brown colour, and its savage disposition. Then whenever I think of a dog, I shall think of its bark, its brown colour, and its savage disposition. This, for me, will be my complex idea of a dog; and if ever I were asked to say what a dog was, I should probably say it was something that possessed a bark, a brown colour, and a savage disposition. It would not be a dictionary definition, but it would be mine, and I should have no doubts about its correctness. Indeed, the less a man's experience of dogs, the more dogmatic are likely to be his definitions. One has no need to be a psychologist to know, that if one wants to find a person who is dead

certain of the truth of his own opinions, one has only to put one's hand upon the most ignorant man in the district. I live not far from an individual whose notions on points that give pause to great minds are perfectly clear-cut, and who is positive that the world is flat.

But, to return, suppose I see another dog, and this time I note its bark, its black colour, and the fact that it wears a brass collar. The idea of the bark of the first dog is similar to that of the bark of the second; the two ideas fuse; the impression is deepened; I shall never be able to think of a dog without thinking of its bark. The idea of the brown colour is different from that of the black; both are colours, but they are contrary; the two ideas arrest each other. The idea of the savage disposition has nothing in common with that of the collar, beyond the fact that they were present together in consciousness as attributes of a dog; they are disparate; a new element has been introduced, and now my idea of a dog is complicated by the added notion of a collar.

The more my experience of dogs is enlarged, the more will new elements be introduced, the more will fusion and arrest take place, and the bigger and more complex will become the apperception mass that clusters round the word "dog." As far as dogs are concerned, this

combination of fusion, arrest, and complication is the source of all the activities of the mind. And what we say about dogs, we can say with equal truth about all the other objects of thought to which we turn; mental activity is just a formation, a complication, an organisation, and a subsequent application of these apperception masses.

As a contrast to Herbart's attempt to explain our mental machinery, so that we may be able to some degree to regulate it, and to calculate its action with at least a reasonable approach to mathematical exactitude, we may set the mystical views put forth by Dickens. In *Hard Times*, treating of factory life at Coketown, he says: "Set anywhere, side by side, the work of God and the work of man; and the former, even though it be but a troop of Hands of very small account, will gain in dignity from the comparison. So many hundred Hands in this mill; so many hundred horse Steam Power. It is known, to the force of a single pound weight, what the engine will do; but not all the calculators of the National Debt can tell me the capacity for good or evil, for love or hatred, for patriotism or discontent, for the decomposition of virtue into vice, or the reverse, at any single moment in the soul of one of these its quiet servants, with the

composed faces and the regulated actions . . . there is an unfathomable mystery in the meanest of them, for ever. Supposing we were to reserve our arithmetic for material objects, and to govern these awful unknown quantities by other means!"

To this, the Herbartians might well reply:—How can we govern these "awful unknown quantities" if they must *remain* unknown, and if the human mind is to continue an "unfathomable mystery" for ever. Once upon a time an eclipse of the sun was held to be an unfathomable mystery. Arithmetic had something to do with its explanation. And perhaps Arithmetic—which I take here as a synonym for exact science—will have something to do with the explanation of "unfathomable" mental phenomena.

CHAPTER VIII

SOME MENTAL HAPPENINGS

EUCLID, of blessed memory, has a *pons asinorum*. This chapter is the *pons asinorum* of the present book. The details are technical, and so do not make the most pleasant reading; but he who masters them, and fits them into his own living experience, will find them useful. Those, however, who *will* skip, *may* skip.

When I look round the room in which I am sitting, I see in it a table, chairs, a sofa, a piano, and other household requisites; these constitute the furniture of the room. Ideas may be regarded as the furniture of the mind; when we speak of a well-furnished mind, we mean one that is furnished well with ideas. To ideas, viewed from this standpoint, Herbart gives the name of *presented content*. As presented content, the idea is subject to change, but slowly, and as the result of fusion, arrest, and complication; our idea of "dog," for

instance, changes slowly and gradually in accordance with our widening experience. When we say that a well-stored mind is rich in presented content, we allude to the number and value of the ideas it contains; we make no reference to the activity of those ideas, but regard them as passive, and only subject to a gradual change.

But we may consider the idea in another aspect—as an active force that is struggling to get to the summit of the dome. In this case we speak of its *presentative activity*. As presented content, an idea changes slowly, but its presentative activity is subject to rapid and violent transformation. As presented content, the idea of the prick of a pin alters slowly, if at all, with my widening experience; and, as a rule, its presentative activity is not great; I have often gone for a whole month, thanks to the lady who looks after my buttons, without the idea of a pin-prick entering my mind. But if I happen to sit down upon the point of a pin, the presentative activity of the normally insignificant idea is suddenly increased a hundred-fold; the weakling becomes a Samson, leaps at a bound to the summit of consciousness, and displaces, it may be, ideas of the most permanent and colossal importance. George Eliot expresses much the same truth

in *Middlemarch*, when, commenting upon Lydgate's professional failure, she says that if a man has a scheme of the universe in his head, and is in need of small sums of money without being able to lay his hands upon them, the scheme of the universe will have to wait.

In considering, then, the value of any particular stock of ideas, it is necessary to take into account two factors, presented content, and presentative activity. A man's mind may be rich in presented content, and yet the presentative activity of some undeserving idea may be so great, and the idea itself so often in the dome of consciousness, that its influence is greater than that of others infinitely nobler. On the other hand, one may have few ideas, yet by cherishing, and living with, the best of them, he may rise to great heights of achievement. Some minds—cultured minds too—are like the character in the *Pilgrim's Progress*, the man with the muck-rake, they are continually dabbling in—well, yes, in refuse. Others, it may be with much smaller attainments, lift rapturous face to the skies. It is largely a matter of the presentative activity of ideas.

In this connection, one might perhaps mention two ideas of Eucken's, which would probably effect a revolution in the lives of

most men who had the resolution to develop their presentative activity and to make constant companions of them. They refer to the subject of freedom, and I quote from Boyce Gibson's account of Eucken's philosophy of life.

"The first of these is the view that a spiritual realm, a social culture in which spiritual ideas dominate and prevail, is still in the making; that it is for us to realise it, and that, apart from our devoted endeavour, the prospect must remain for humanity a mere illusion and a dream. The world is unfinished and our personal life rent by oppositions, but the furthering of the world's work, and the progressive reconciliation of the oppositions of our human culture, is the very task through which our freedom grows to its full stature.

"The second of the two great truths is, if anything, older and simpler. It is the central conception in the idea of a religious freedom, the view that our moral freedom is rooted in the religious life, that our freedom as autonomous law-givers gains its deepest significance through that perpetual act of self-surrender which expresses our dependance upon God."

The amount of presentative activity is one of the most important qualifications which an idea can possess; for, as the proverb puts it,

"the nimble ninepence is better than the slow shilling." Thus, ideas may be graded according to the degree in which their activity is manifested; and on this basis it would be found that for every mind there is a kind of order-of-merit arrangement, often disturbed, it is true, by stimuli from outside, but to which there is a strong tendency to return as soon as the extraneous influence has been withdrawn. This order-of-merit arrangement differs with each individual mind. In the mind of an astronomer, ideas connected with the stars will be very energetic; while in the mind of a botanist, ideas of astronomy may have an abiding-place quite below the threshold. A soldier prizes his country's honour, a miser his own money; in the former case ideas about honour, and in the latter ideas about money, will often find themselves at the summit of the dome.

It would be an experiment both interesting and instructive to take a sheet of paper, and, after writing out a list of the chief ideas which enter into our daily life, classify them in the order of merit in which we think we hold them. The experiment would be still more interesting and instructive if we were to ask a candid friend, or, perhaps still better, a candid enemy, to make an independent classification for us. A com-

parison of the two lists would doubtless bring a series of shocks. As a parlour game, the above exercise would never fall flat, though it might possibly disrupt the firmest friendships.

This order-of-merit arrangement on the basis of presentative activity we might term constitutional. If constitutional presentative activity were all, then we should find that the most powerful idea would take permanent possession of the summit of the dome, while the weaklings would never rise above the threshold. Fortunately, however, presentative activity is not only a question of constitution, but, as we have seen, of outside stimulus as well. So our most powerful ideas do not have it all their own way. The little pin-pricks elbow aside the schemes of the universe, and our mental life is varied, healthy, sane. The man of one idea, like the man of one leg, lacks the varied experience necessary for success in a complicated life.

For the constitutional arrangement of ideas in a man's mind, we hold, rightly or wrongly, that the man himself is responsible. Character is largely a matter of such arrangement. If, therefore, we wish to alter this in some particular detail, or in general trend, we must endeavour to change the order of importance in which we hold our ideas.

But to change the relative importance of an idea, it is necessary to change its presentative activity; and to change its presentative activity, it is necessary to call it up with more or less frequency to the dome, in order that it may have more or less opportunity to make alliances. Suppose, for instance, a young man wished to increase the presentative activity of ambition, how would he go about it? He would call up the idea of ambition more frequently to the dome; and, by systematic reflection, he would ally this to the mass of ideas clustering round the particular calling in which ambition was to find scope, and also with the mass of ideas dealing with the benefits to himself and others that ambitious effort might bring. But as presentative activity is subject to rapid and violent change from outside stimulus, it would be well for the ambitious young man to avoid, as far as lies in his power, situations where ideas antagonistic to ambition are rampant, and to seek those where ideas friendly to ambition are both plentiful and strong. In other words, he should shun the never-never land of the lotus, and seek incentives to industry.

When an idea claims admittance to the dome a struggle ensues. All its friends in the dome rally round it, and try to drag it

upwards; all its enemies attempt to press it down. After the struggle, there is a state of temporary equilibrium, and the new idea remains, for the time being, either on, above, or below the threshold. If at any moment an idea occupy one of these three positions to which it is entitled in a state of equilibrium, the threshold, in relation to that idea, is called *statical.* If the condition of equilibrium demands that the idea should occupy a position other than it holds at any given moment, the threshold, in relation to it, is called *dynamic.* If an idea rises above the threshold of its own accord, and merely through the disappearance of contrary or opposing influence, we say that this is a case of *immediate recall.* An idea of this kind might be compared to an elastic spring; press it down, and it remains bent so long as the pressure continues; but it bounds upwards as soon as the pressure ceases. A grocer goes out of his shop to attend, say, a religious service. As long as he remains in church, the ideas connected with his religion press down those of the shop; but no sooner does he leave the church, than off goes the pressure, and up spring the grocery ideas.

When one idea recalls another with which it has been previously fused or complicated, we have *mediate recall.* The associations formed

by fusion are the most permanent; in the case of idea-groups formed by complication, a link may easily be lost.

Sometimes, though rarely, one idea so pervades the whole dome that there is, for the time being, very little room for any other. When we speak, for instance, of a man being paralysed by rage or terror, we mean that the dome is so occupied by these passions and their concomitants, that there is no room for ideas of speech, thought, or action. Strong sense-excitations have also, at times, the same overpowering effect. For this reason an unpractised speaker often finds it advisable to fix his eyes on some particular point, and not upon the impressive spectacle of the audience, if he wishes to keep the thread of his discourse; and even some practised speakers do not seem to be able to get along without fingering a particular button or eye-glass.

Herbart, like other psychologists, holds that ideas out of consciousness are not out of existence. No idea, however, that is below the statical threshold can exercise any influence whatever upon our present consciousness; though it is always there, ready to be recalled. On the other hand, ideas that find themselves below the dynamical threshold *may* exercise an influence on those within the dome. This agrees

with the common experience of waking in the morning amidst pleasant surroundings, yet with an uneasy feeling that something is wrong; and presently we remember the care which oppressed us just before we went to sleep. Coming ideas, like coming events, cast their shadows before; though, of course, this has nothing to do with the baseless forebodings that often accompany a state of "nerves." The ill-doer is not necessarily unhappy. He is vaguely uneasy when the idea of the bad effect of his actions is below the dynamic but not below the statical threshold; he may be joyous as a lark if he can succeed in placing it below the latter. Bill Sykes burgles a house, and, as long as he remains confident of escaping detection, the little affair does not trouble him in the least; the ill-effect has taken post quite below the statical threshold. But a man of tender conscience defrauds a railway company of sixpence, and the thought crops up constantly to poison otherwise happy moments; it is below the dynamic but not below the statical threshold. Eventually he may succeed in thrusting it below the latter, by the specious reflection that, after all, the sufferer is only a railway company, which the travelling public generally esteems to be a kind of moral outlaw, and fair game for all.

Now and again, ideas that have, as it were, lurked in the limbo of sub-consciousness for years, suddenly, under unusual conditions, spring into the dome; and a man stands aghast at the sight of possibilities of which he did not suspect himself to be capable. It is well for him in such a crisis, if in times past he has schooled himself to pause, to deliberate, and to allow his ideas the opportunity of coming to a state of constitutional equilibrium, before he acts upon their solicitations.

CHAPTER IX

PHASES OF APPERCEPTION

AND now let us consider the subject from another point of view. An idea presents itself for the first time to the mind, effects an entrance into consciousness, and is there acted upon. Herbart holds that the action of the mind upon this new idea is influenced—indeed practically determined—by the mass of ideas already present. This action is known by the name of *apperception.*

This is so important that it might be well to give several definitions. Steinthal tells us it is "the union of two mental groups, in so far as it gives rise to cognition." Professor Stout says it is "the process by which a mental system appropriates a new element, or otherwise receives a fresh determination." While Lange conceives it as "that psychical activity by which individual perceptions, ideas, or idea-complexes are brought into relation with our previous intellectual and emotional life, as-

similated with it, and thus raised to greater clearness, activity, and significance." Dr Hayward is simpler; "Apperception," says he, "is the process of interpreting some new fact or experience by means of our previous knowledge," but for brevity and simplicity combined, it would be hard to beat William James, with his, "it verily means nothing more than taking a thing into the mind."

Nothing more than the act of taking a thing into the mind. Merely this, and nothing more. When you have said this you have said all. But have you said all? Euclid has a few definitions, axioms, and postulates which the dullest schoolboy has little difficulty in learning; but these contain, implicitly, all the truths of geometry that have ever worried the brains of would-be senior wranglers. In like manner, James' fifteen words might be developed into fifteen volumes. Within narrower limits than these, let us try to unfold the meaning of apperception.

You may rear a cat, a dog, and a monkey, each on a diet of milk. The assimilative machinery of a cat changes the milk into the tissues of a cat; the assimilative machinery of a dog changes the milk into the tissues of a dog; the assimilative machinery of a monkey changes the milk into the tissues of a monkey

In each case the diet is the same, the assimilative process is on the same lines; it is the internal constitution of the creature assimilating that makes such a difference in the products, and changes milk into monkey, cat, or dog. Call ideas the food of the mind, and if you feed different minds with the same mental diet, you will obtain very different results. "Since apperception," says Professor Adams, "means the acting upon a new idea by all the ideas present in the mind, and since the number and arrangement of ideas in no two minds are exactly alike, it follows that no two persons can have precisely the same idea of anything. If Herbartianism did no more than emphasise the fact that no two people have ever exactly the same idea, and particularly that no master and pupil can ever have the same idea it would justify its existence."

An astronomer perceives an eclipse of the sun; the perception is acted upon by the contents of his mind; and the resulting apperception is an interesting exemplification of natural law that brings with it no particular disturbance of the emotions. A savage perceives the same object; the perception is acted upon by the contents of his mind; and the resulting apperception is the idea of a sun threatened by demons who would rob it of its

light, while the emotion aroused is one of abject terror. In both these instances the idea that enters the mind, viz., the appearance of the eclipse, is the same; but the contents of the mind being different, the resulting apperception is different also.

A cruel man sees a horse ill-treated; the perception is acted upon by the brutal ideas present in his consciousness; and the resulting apperception causes heartless laughter. How different is the result when a man of gentle nature witnesses the same occurrence.

A boy who has just been reading ghost-stories walks past a churchyard at night, and sees in the moonlight a wisp of mist. Present in his consciousness are ideas of ghosts; he sees the white mist; the idea is assimilated by his mental content; and the resulting apperception is an image of a supernatural visitant. On the other hand, a man who has just been told that he is threatened with bronchitis, perceives the same wisp, and apperceives it as a menace to his breathing-apparatus.

Why should the sight of a mouse cause a girl to jump on a chair, and a boy to jump on the mouse? The perception is the same in both cases; it is the mental content that makes such a difference in the apperception.

When the plain practical men, the Thomas

Gradgrinds, ask for facts, the answer is that one cannot get them. Or, if there be such a thing as a naked, absolute fact existing somewhere in the world around us, the moment it enters the mind it becomes a veritable chameleon. This gives point to the command: "Judge not." We might conceivably judge justly if we could put ourselves exactly in the position of the offender, and apperceive exactly as he does. But, seeing that the two mental contents inevitably differ, the apperception differs also. So Charles Reade's *Put Yourself in his Place* tells us to attempt what is psychologically impossible.

Titania was enamoured of an ass—an experience which is said to be by no means uncommon. May we not think of this as no mere delusion of the senses? Possibly the optic nerve conveyed much the same stimulus to the brain in the case of Titania as it did in that of her companions, and the sensations with which the minds responded were much the same too. With Titania, however, magic had transformed the apperception masses, and Bottom the weaver, with the head of an ass, was apperceived as an Apollo. It is perhaps fortunate for some of us that Titania's experience, at all events in a modified form, should not be unusual. If we all apperceived

the same objects in exactly the same way, we should read the same books, love the same music, and rush for the same sports, pastimes, trades, and professions; so that the every-day work of the world would stand a chance of being done rather badly. As for the marriage-problem, that would give magnificent scope to some of our present-day novelists.

If there is this great difference in the apperceptive process when what is observed is a real thing, an actual object, there is a still greater difference when words, which are the symbol of things, are used. In the case of actual objects, the new idea, the perception, is practically the same for all; the only variable is the mental content. But with words you must not be so sure. Many people have a vocabulary consisting largely of expressions which are nearly, if not quite, devoid of meaning to the users; and when such a person utters a jingle that has, for him, no definite and particular signification, what kind of material does he offer to himself and others for the apperception masses to work upon? Theological terminology has a bad reputation in this respect. But theology is by no means the only sinner; our spoken and written speech abounds in these dead phrases. Even when our words have a distinct and

definite meaning, that meaning, in spite of cheap dictionaries, is not always the same for all. And it is well to remember that if the definition of an object is incomplete or false, and if it is nevertheless regarded as correct, and further applied, the entire thought-structure which has been erected upon it is incomplete or false.

"Take care of the pence," says the proverb, "and the pounds will take care of themselves." This seems to imply that where there is a looseness in money affairs, it is most likely to show itself in the case of small amounts. In a similar way, one might say that if a man wished to save himself from loose thinking, he should scrutinise closely the meanings of words.

If the new perception is of such a character as to correct, not only one idea in detail, but the whole of large masses, then these apperceiving masses sometimes undergo a complete transformation. Rennet dropped into water causes little change, but dropped into milk it works wonders. So with ideas: sometimes they change the old but slightly, sometimes they effect a revolution. In the latter case we find ourselves compelled to give up what have, for us, long been fixed combinations of ideas; thus the process of learning may become, not so much an addition

to our knowledge as a reconstruction of it. From Archimedes, Copernicus, Galvani, Volta, Newton, down to Watt, Darwin, Edison, and Marconi, the history of civilisation shows how a single perception, a single swift and happy thought, sometimes overthrows whole systems of knowledge, and necessitates a complete re-arrangement of the old material.

When the action of the revolutionising perception is extended to ethical and religious habits of thought, which have hitherto ruled the life, and from which have proceeded strong, deep feelings ending in will and action, then apperception will sometimes literally make a new man. In this connection Lange says :—"We grant that in weak and characterless natures the change of ethical insight does not necessarily imply as a result the transformation of the will, that in such natures a contradiction between knowing and doing is frequently to be observed. But here the above-mentioned pre-supposition is wanting, viz., that hitherto an ethical circle of thought has determined and guided all willing and action, that the strongest feelings and efforts have arisen from ethical views and judgments. He who regards the good only as theoretical knowledge, and not a source of noble inspiration and vigorous resolution, may change his

convictions repeatedly without his disposition being touched thereby. Moreover, we may also mention that a fundamental and everlasting change of mind demands, beside the change of insight, also a continuous exercise of will in other directions."

The subject of "conversion" would seem to be in place here, but space forbids more than a brief notice of its chief features. Primarily, it is a revolutionary re-organisation of mental apperception masses: it is therefore, in the first instance, an intellectual process, a matter of cognition, knowing. The nature and extent of this re-organisation form the basis of the conversion, and the process is accompanied by deep feeling. The feeling gives rise to a desire to live up to the new ideal now set up in the mind; and desire is the spring from which flow the streams of will that influence action, practical conduct. There is, then, first cognition, then feeling, then desire, then will that eventuates in action. The problem is not only to make the new organisation of a permanent character, but also to see that the connections between cognition, feeling, desire, will, and action, are kept in good working order. To attain the former end, deep and prolonged reflection is often requisite; to attain the latter, it is

necessary to use the connections, and to cultivate the habit of passing from cognition through the whole series to its culmination in an act.

But not only is there an apperception of an impression received from outside — external apperception; it also takes place among the ideas already present in the mind—internal apperception.

On a boggy hillside many streams meander through the peat; it is only when they unite that they gain strength and volume sufficient to sweep away great obstacles from the path of what is now a mighty torrent. Inside the tube of a cartridge-case are three substances —saltpetre, sulphur, and charcoal; these, in certain definite proportions, constitute gunpowder. The three, though apparently touching each other, are not, however, in intimate physical contact; but ram them tightly enough, or cause the molecules to approach each other more closely by the agency of heat, and an explosion ensues. In the case of the streams on the hillside no new force, and in that of the powder no new ingredient, has been added; there has simply been a change in internal organisation. With the streams this has resulted in a wonderfully effective force, with the powder it has

brought about a revolutionary conversion. These are material illustrations of the mental process which the Herbartians term internal apperception.

The ideas which led to the construction of the steam-engine were known long before Watt, but in every mind where they were present they were more or less isolated, belonged to different apperception masses. It required the genius of the inventor to bring the congruent ideas together in the process of internal apperception; this done, we got the steam-engine. A botanist may have nobler ideas, a richer experience, and a far greater knowledge of flowers than a poet; if he could only manage his internal apperceptions as a poet does, what magnificent poetry might he not give us! "I never," said President Garfield, "see a poor boy pass in the street without being tempted to take off my hat to him; for who knows what possibilities may be buttoned up under that ragged jacket?" A striking thought! Yet it applies not only to a ragged boy, but also to a smug and glossy, middle-aged mediocrity. For the latter, though not, it may be, possessing much knowledge, or capacity for acquiring it, has yet sufficient ideas in his head to revolutionise, certainly his own life, if not indeed that of the

society in which he moves—could he only combine them in the right way. Some day, a queer jolt, as it were, in his mental machinery, may bring together materials that are now widely apart; and their juncture may result in an invention, a generalisation, an all-embracing theory, which will, in Krüger's historic phrase, "stagger humanity."

The acquiring of new knowledge is a more popular process than that of combining the old into new apperception masses. In other words, external apperception is frequently practised; internal apperception—at least active and conscious, as opposed to passive and unconscious—is rare. In many cases it would be good advice to tell a man:—"Leave new facts alone for a while. Resolutely set yourself to the task of sorting and classifying those you already possess. Then see if you cannot arrange them in different masses or combinations." Here Galton has a suggestion that might greatly assist in the work of reconstruction. He speaks of the *ante-chamber of consciousness*, where the ideas are thronging, waiting to enter the throne-room in which royalty—the idea which is the focus of our attention—is on the look out for a fitting mate. We cannot call particular ideas at will, but must wait for them to enter of their own

accord; as they come, however, the unfitting are rejected, the fitting seized and apperceived. And Lazarus tells us that apperceiving notions are like armed men in the stronghold of consciousness, ready to hurl themselves upon everything that appears at the portals, overcoming it and making it serviceable to themselves.

Since Stevenson wrote *The Strange Case of Dr Jekyll and Mr Hyde*, there has been much talk of dual personality. A striking instance of this phenomenon is related by Immermann. It is the story of an old captain who had served first in the French and then in the Prussian army, and who, after his retirement from active life, was alternately the supporter of the great Napoleon and of the king of Prussia. He created military order among his ideas, and divided them into two separate corps which acted independently, and of which he took command for alternate periods. On the days when the veteran was an ardent Napoleonite he hated the Prussians with all his heart; and when the dome of consciousness was filled with prejudices in favour of the Prussians, Napoleon was for him the very devil.

Possibly dual personalities are rare; but, be that as it may, it is certain that *multiple*

personalities are as plentiful as blackberries. A man who is a money-lender from ten till four, is often a quite different character when he goes home to spend the evening in the bosom of his family; and he takes on still another personality when he calls in at his club, or attends a political meeting. This alteration in behaviour must by no means be always put down to hypocrisy. While the money-lender is in his den, he apperceives events with the money-lender mass of ideas; while in his family with the conjugal and parental mass; and so on with the rest. He is an exemplification of the saying that one man in his time plays many parts. Where he, and most of us, often miss our way, is that with us these apperception masses are isolated. We should do well to organise them into one great complex with a few vital principles common to all. "The mastery over education," says Herbart, "is not secured until one knows how to bring into the mind a great thought-complex, which possesses the power to overcome what is unfavourable in its surroundings, to absorb what is favourable, and unite it with itself."

Sometimes a perception remains for a considerable time in the mind before being assimilated. This is one reason for causing young

people to learn by heart portions of Scripture, or extracts from standard authors, which they cannot at the time understand. It may be that years will elapse before the full meaning occurs to them. But the ideas are there, waiting for the fit moment of union. When such a moment comes, what has before been a sphinx's riddle becomes plain; and often the apperception takes place at some crisis when the new insight is especially valuable. "And even to the adult," says Lange, "there come occasionally words and sentences, thoughts so strange and rare, that he knows not at first what to make of them, and catches himself, perhaps, asking with curiosity, what sense or significance these new things may contain for him."

How do the Herbartians explain the phenomenon of a fact "puzzling" us? Something contradicts our experience so flatly that we cannot relate it to what we already know: why is that? Well, the answer is that we quite fail to apperceive the presented notion. Under these conditions, our wonder is sometimes accompanied by violent emotion, and we "lose our heads." An instance of this is the case of Livingstone's servant. At home in Africa he had never seen any sheet of water that could be at all compared with

the ocean; and when, accompanying his master to England, he perceived nothing but water around him, and saw the great ship gliding over the never-ending waves, he could not assimilate, apperceive, the astounding impression; and, losing his presence of mind, he sprang overboard and was drowned. Few of us have had a dramatic experience at all comparable with that of Livingstone's negro, but we have all been "puzzled" from time to time by occurrences for which we have been at a loss to account. A neighbour with whom we have a long-standing feud, one day sends us a brace of pheasants; a creditor who has been in the habit of submitting his account with regrettable frequency, suddenly apologises for his insistence, and begs us to increase our debt; a cultured friend marries his cook; a hitherto idle schoolboy implores his teacher for long and difficult home-lessons. When we meet with these shocks, we have a feeling of doubt and uncertainty, and we fail to combine the new perceptions with our previous knowledge of the neighbour, the creditor, the friend, and the schoolboy respectively. But the doubt and uncertainty will vanish, the moment we find some point in the old apperception mass to which we can attach the new notion.

And now for a brief summary of this long chapter.

1. Apperception is the process of taking into the mind new knowledge, and arranging it in some orderly manner when it gets there.

2. The same perception is differently apperceived in each individual case: no two minds see the same thing alike: an apperception mass is the product of two factors—the presented idea and the previous mental content.

3. The new perception is practically the same for all: it is previous mental content that differs.

4. You cannot feed the mind with absolute facts. All presented facts are relative, and are changed in infinite ways according to the infinite varieties of minds. The change takes place during the process of assimilation, or apperception.

5. It is fortunate for the well-being of the world that we do not apperceive things alike.

6. Though there is a great difference in the way individual minds apperceive ideas of actual objects, there is a much greater difference in the way individual minds apperceive ideas symbolised by words.

7. Some perceptions are revolutionary in their action. "Conversion" is often primarily caused by these revolutionary perceptions.

8. There is not only external apperception —the assimilation of an idea received from outside; there is also an internal apperception of ideas already present in the mind.

9. It is strongly advisable, now and again, to set our wills resolutely to the task of systematic internal apperception. Galton's idea of the Antechamber of Consciousness may help us here.

10. Cases of multiple personality, due to the isolation of apperception masses, are common.

11. To secure consistency of character, we should endeavour to form the contents of the mind into a great thought-complex.

12. Isolated perceptions often remain in the mind a considerable time before being apperceived.

13. We are "puzzled" when we fail to apperceive a new experience.

CHAPTER X.

CONDITIONS OF APPERCEPTION

ACCEPTING the doctrine of apperception, we see that the work of the teacher, or of the adult who is continuing his own education, is clear and straightforward; for the Herbartian psychology has an immediate and practical bearing upon the mind's growth and development. As the apperception masses are made and modified by the supply of ideas, a child's mind is largely in the hands of the teacher; and, in a less degree, the mind of an adult learner is largely in the hands of himself.

Helvetius claims that if a teacher could have sole charge of a child from the day of its birth, and be with it every waking moment, he might model its mind as he would; he might make it a paragon of virtue or a prodigy of vice. Herbart does not go so far as that, but allows for obstacles to the teacher's influence in the shape of idiosyncrasies of bodily structure, and hidden and uncontrollable external forces.

But such an absolute devotion as Helvetius suggests is of course impracticable, even if it were to be desired. "The child who comes to school," says Professor Adams, "at five years of age, brings with him an enormous number of limitations of the teacher's power. Every idea in that little head is a force with which the teacher must reckon. His first duty is obviously to discover as much as possible about the contents of the child's mind. Only so far as he succeeds in this is he able to understand the reaction of the child's mind upon a given idea. The very inevitableness of the mind's reaction is the teacher's chief aid. Here he finds the fulcrum for his lever. The rest of his work is actual building up, edification."

The young man starting out to make his own way in the world offers a still greater number of limitations to this process of building; for his apperception masses are larger, more numerous, and more complicated: in other words, the bent of his mind is more difficult to change. Whether he now wishes to be his own mental builder, or to submit himself to the building of others, evidently the very first requisite is to discern as much as possible of the contents of his mind. Quite new apperception masses are common in youth;

they are sometimes found even in old age; but it is chiefly by building upon masses already existing, that culture is possible. For want of the elementary precaution of ascertaining the nature of these masses before beginning a course of instruction, mistakes are constantly being made. Agricultural labourers, who can scarcely read, and in whom the process of writing is accompanied by vast and varied muscular disturbance, have been induced by zealous but mistaken teachers to attend classes in book-keeping or shorthand. Men plunge boldly into what is perhaps the most complex of all the sciences—politics—with no preliminary training in great systems of life-knowledge, such as physiology, biology, sociology, upon which the study of politics should be based. While religious teaching is too often built upon the narrowest and most unsubstantial of foundations.

Herbart's doctrine of the greater activity of ideas than of the original mind-substance, agrees in part with the opinions of writers of opposing schools. Hodgson says: "Volition has no power of calling up images, but only of rejecting and selecting from those offered by spontaneous redintegration." And Bain: "The outgoings of the mind are necessarily random. The end alone is clear to the view,

and with that there is a perception of the fitness of every passing suggestion. The volitional energy keeps up the attention on the active search, and the moment that anything in point rises before the mind, it springs upon that like a wild beast upon its prey."

The importance of this view of mental phenomena is great. Ideas constitute the content of the mind, and by means of the process of apperception these ideas are worked up into masses. A new idea is presented to us. We hold it, by an effort of will, in consciousness, and endeavour to call up an apperception mass with which it can be combined. We cannot be sure that the right one will come at once. All we can do is to wait for the procession to file past. Perhaps half-a-dozen, perhaps a score, of unsuitable ideas rise into consciousness, and are successively rejected, before something satisfactory comes along and completes the process of apperception.

But suppose there *is* no right apperception mass. Then if the mind must choose, it must inevitably choose amiss. The Spartans are reputed to have taught that there was no harm in undetected robbery; and a conscientious Spartan, seeing another man's property lying loose and unwatched, had no scruples

about stealing it. The idea that stealing was always and inevitably wrong had never entered his mind; so how could he choose to act upon it in this particular instance? All this is an argument for supplying the mind with good ideas, so that when the occasion calls them up to apperceive a given situation, they may be ready.

"Shut out, to a great extent," says Mr Rowntree in *Poverty*, "from the larger life and the higher interests which a more liberal and a more prolonged education opens up to the wealthier classes, it is not surprising that, to relieve the monotony of their existence, so many artisans frequent the public house, or indulge in the excitement of betting." How *could* the artisan choose the higher ideas, seeing that they are not there in his mind to choose from?

Some years ago there appeared in *Punch* a picture of a drunken man leaning helplessly against a post in front of a gin-shop. Mr Punch and a policeman were watching him.

"A beastly sight, Mr Policeman," said Mr Punch. "Can you do nothing?"

"Nothing, sir," replied the policeman. He hasn't been disorderly. He hasn't broken the law."

"If that is the law," returned Mr Punch, "it is time the law was altered."

And truly it is time the law *was* altered. It

perhaps might be advisable to alter it in the direction of supplying good ideas to working men, and the children of working men, and the young fellows who have left school to graduate in the college of the street corner. The thing might be done a great deal better than it is done now. Ideas are not everything —as we shall presently see—but they go a very long way.

Fielding's words are even more pronounced than Mr Rowntree's. "Starve me," says he, "keep me from books and honest people; educate me to love dice, gin, and pleasure, and put me on Hounslow Heath with a purse before me, and—I will take it." Is there any *may* about the case? Fill a man chock full of bad ideas, and will he not act upon them? We talk about temptation being a conflict between the good and the bad. If the good ideas are not there, temptation is impossible, or it is merely a struggle between solicitations of different degrees of turpitude—and vice is a foregone conclusion.

In the matter of the supply of ideas, the Herbartians occupy a very strong position. During the process of education, when the mind is on the look-out for a certain idea, the teacher, knowing—as he certainly ought to know—what is going on in his pupil's mind,

and the laws according to which the mechanism works, can readily increase the presentative activity of the idea in question, and send it straight to the summit of the dome. Say a boy is tempted on a certain occasion to neglect his lessons, and turns over his ideas in order to decide as to the advisability or inadvisability of mental laziness. His teacher, making a shrewd guess as to what is going on, and knowing that the youngster is keen on cricket, increases the presentative activity of the cricket-idea, perhaps by a little sympathetic cricket-chat, and then points out that laziness in the day's lessons will probably be followed by loss of play for a week. Laziness-at-lessons and deprivation-of-cricket become welded in one apperception mass, industry-at-lessons and cricket-practice in another; the struggle is between these two, and nine chances to one that love of cricket carries the day. The teacher might possibly have called up some higher idea than that of cricket. But doubtless he knew his boy. Anyhow, the end is attained, and lessons are learnt.

A child, learning to read, spells out the word "duty." The idea corresponding to the verbal symbol is, it may be, absent from the young mind; the teacher, by means, not of abstract statement, but of story and illustration, supplies

the idea, and apperception takes place between the symbol and the abstract idea.

The above two instances exemplify two important functions of the teacher: he increases the presentative activity of old ideas, and supplies new ones for apperception.

Herbert Spencer makes an attempt to classify, in the order of their importance, the leading kinds of activity dealing with human life. He says: "They may be arranged into:—1. Those activities which directly minister to self-preservation; 2. Those activities which, by securing the necessities of life, indirectly minister to self-preservation; 3. Those activities which have for their end the rearing and discipline of offspring; 4. Those activities which are involved in the maintenance of proper social and political relations; 5. Those miscellaneous activities which fill up the last one third of life, devoted to the gratification of tastes and feelings."

Translating into justified interms, we may say that the five grand powers of ideas necessary to a full and complete human life are, in the order of their importance:

1. Ideas about the laws of health.
2. Ideas about one's trade or profession.
3. Ideas about the rearing and discipline of children.

4. Ideas about one's social and political relations.

5. Ideas connected with the spending of one's leisure.

To live, therefore, a full and complete life, a man should be well equipped with ideas in all these departments of knowledge. A good store of knowledge, organised into suitable masses and systems: this is one requisite for the truly successful life.

Of course it does not necessarily follow that because ideas about the laws of health come first, therefore we ought to spend most of our time, or indeed any very considerable portion of it, in acquiring them. We must know something about them, or we could not live a day; but, with most of us, ideas about our trade or profession are bound to occupy a great part of our conscl ese tw , They should not, however, occupy too f cricket ca.. If we wish to be all-round men, w possibly hav glect any one group of acquiremen that of cri proportion as we neglect one or 1 boy. Atem, will our culture be more or less lop-sided.

Mental efficiency, as we have seen, depends not merely upon the number and value of ideas, but also upon the way in which they have been grouped so as to suggest each other at the proper moment. Minds stored with facts

that have not been well apperceived, are something like a house into which the furniture has just been tumbled from the removal-van; you search, it may be, for the kitchen table, and lay hands on the dining-room coal-scuttle; all the articles are there, sure enough, but, for the life of you, you don't know where to find them. So it is with a badly-organised mind; possibly there is no lack of ideas, but they cannot be found when wanted.

And so the saying "knowledge is power" stands in need of correction. Knowledge that I cannot recollect when I need it: *that* is perhaps a burden, and subtracts from, rather than adds to, the mind's efficiency; but knowledge which I can call up and apply at the psychological moment—that is power indeed.

A doctor who has learnt the antidotes to all the poisons, and forgets the one that is essential to the case he has in hand—though it flashes upon him the moment his patient is dead—would scarce be justified in saying that this knowledge of his was power. If a man knows how to swim, but fails to recollect it when the boat upsets, his knowledge may be power, but it is the power of sinking. Someone addresses us in a manner that hurts our feelings, and we rack our brains for a venomous retort; the wished-for idea comes to us five minutes after

the aggressor has left; of what use is it, except—if this be a service—to fill us with bitter chagrin at an opportunity lost? To be power, knowledge must be available; it must have been properly apperceived.

In Hawthorne's *Scarlet Letter*, the Rev. Arthur Dimmesdale, a man who, in spite of one fall from grace, possessed a mind of exceptional spirituality, was assailed at a crisis in his history by temptations of a low and sensual type. "At every step," we are told, "he was incited to do some strange, wild, wicked thing or other, with a sense that it would be at once intentional and involuntary." But the degrading ideas speedily came to grips with the powerful resistance of well-organised apperception masses, and were cast out. Even so pure and lofty a spirit as Wordsworth's was not free from such incitements. "I feel the weight of chance desires," he says; and who does not recognise the experience? The danger is, that resistance may go down before the first fierce onslaught. To the good man, every moment of delay spells victory.

But apperception depends upon the apperceived, as well as upon the apperceiving idea, that is, upon the new idea, as well as upon the masses of the old; the former is called the object and the latter the subject of apper-

ception. As regards the new idea, Herbartians lay stress upon the following points :—

1. That which is entirely strange leaves us cold and unmoved; the absolutely new is not understood.

2. Attention turns to that which recalls the known.

3. Well-known perceptions are apperceived quickly and without trouble.

4. If the new agrees with the earlier experiences only in part, then apperception is gradual, and we are conscious of it as mental labour. Such apperception includes an act of learning.

5. In the discovery of truth, or the creation of thought-products, the present mental content is always confronted by that which is relatively new.

6. New perceptions should not be weak and wavering, nor so strong and overpowering as of themselves to crowd out all other thoughts.

7. It is well to avoid a too rapid, as well as a too slow, unfolding of the stages of apperception.

Considering in the next place the subject that apperceives—the mental mass that apperceives—we find the Herbartians emphasising the following :—

1. The power of these ideas depends first of all upon their intensity and activity. Ideas will be intense and active in proportion as they have arisen from our own active experience, and book-knowledge will be comparatively futile.

2. That with which painful or happy memories are associated, stands as a rule, nearest to consciousness, and springs to apperceive the new perception.

3. If the apperception is to be vigorous and correct, then not only intense and active, but also wide-reaching and plastic groups of ideas must confront the new perception. In this way the new is not falsified by chance ideas, but is apperceived by a great thought-complex.

4. This thought-complex must not be lacking in careful elaboration and organisation.

In addition to the object and the subject, there is another important factor in the process of apperception, viz., the condition of mind and heart. In connection with this, the following considerations are worthy of attention:—

1. States of mind that have no relation to the new perception, may prevent the right masses from rising to receive it. Don't try to master the binomial theorem the moment after you have heard that somebody has left you

a fortune; and don't try to make a man who has the toothache believe that pain is an illusion of the senses. In a word, the right mood must dominate.

2. A state of expectation assists apperception. A wife who is listening for the footstep of her husband, hears it sooner than does the neighbour who has dropped in to discuss a new bonnet.

3. The will must hold the perception firmly in consciousness.

4. Custom, inclination, desire, passion, indolence, often fight hard to prevent a man from recognising and receiving new truths.

5. Lack of intelligence in apperceiving is often confounded with prejudice, lack of good will.

6. Illness, weakness, fatigue—indeed all bodily conditions injurious to the nerves—are hindrances to apperception.

And now, in brief, what shall we say are the services that apperception performs for the mind?

1. It makes the acquisition of new ideas easier. Were it not for apperception, we should—since the ever-changing objects around us would nearly always appear strange and new—daily expend, in receiving sense-impressions, as much power as the child does in its earliest years. To take one example, we should, in reading and listening, be obliged to

attend to every word, instead of, as now, noting a word here and there, and filling up the blanks from our apperception masses.

2. It reduces to order what would otherwise be a chaos of sense-impressions.

3. Its utility is due to the fact that it refers the new to the old, the unknown to the known; that it transforms the difficult and unaccustomed into the accustomed and easy. In doing so it proves itself a great conserver of power.

4. It improves the efficiency of the sense-organs, so that perception is greatly increased in accuracy and precision. For instance, a botanist observes plants better than, say, an astronomer, because the former possesses better apperception masses in botany.

5. It is useful not only in receiving new impressions, but also in organising old ones. By connecting isolated ideas with masses already formed, and by giving to the new its fitting place among them, it increases the definiteness and clearness of ideas, and knits them more closely in consciousness.

6. It is thus the best aid to memory.

7. By condensing many perceptions into one concept, and many concepts into one principle, or general notion, it produces order in our feeling, knowing, willing.

8. By its aid, is built up one thought-complex from great systems of principles; and when the complex acquires a high value for our feelings it becomes additionally powerful, and forms, as it were, the hands and the eyes of the will.

9. Finally, when the thought-complex is complete, says Lange: "In place of the psychical rule of caprice, the monarchical control of higher laws and principles, and the spontaneity of the ego are the kernel of the personality. By the aid of apperception, therefore, we are lifted gradually from psychical bondage to mental and moral freedom. And now when ideal forms are apperceivingly active in the field of knowledge and thought, of feeling and will, when they give laws to the psychical mechanism, true culture is attained."

We might fittingly conclude what is possibly a long and stiff chapter with the inspiring words of Lessing: "Only the skill to rise quickly in every emergency to universal truths, makes the great mind, the true hero in virtue, the discoverer in science and art."

CHAPTER XI

TRAINING

THE muscles of the body must be fed, and, if they are to be strong and vigorous, they must also be trained. If we wish to have strong and vigorous arms, we must train the muscles of the arms; if we wish to have strong and vigorous legs, we must train the muscles of the legs; it is a question of individual muscles; any of them, in order to be strong and vigorous, must be trained.

The care of the body, say the "faculty" psychologists, is paralleled by that of the mind. Instead of individual muscles we have individual faculties. If we wish to have a strong and vigorous reason, we must train the faculty of reason; if we wish to have a strong and vigorous imagination or memory, we must train the faculties of imagination or memory; and so on. And just as the training of the body is a quite different affair from that of supplying it with bodily food, so the training

of the mind is a quite different affair from that of supplying it with mental food, that is with ideas. So that in training the mind, the *kind* of knowledge is of no importance; it is not what one learns, but how one learns it, that matters. This is the doctrine of those who advocate "formal education," "formal training," "formal culture."

The Herbartians, denying, as they do, the presence of faculties, say that this parallel between mind and body does not hold, and that as the faculties are not there, it is of course impossible to train them. One *cannot* train a mind, they maintain, irrespective of the materials upon which it is exercised.

If the subject of instruction does not matter —as the formal educationists say—then why not choose pleasanter subjects? Mathematics and chess are said to exercise pretty much the same faculties. Some boys like chess and hate mathematics. Then why not train these boys in chess rather than in mathematics? Or again, if subject-matter is of no importance in training, why not have a training in crime? In this connection Professor Adams says:— "What could call into play more of a boy's faculties than orchard-robbing? Almost all the virtues are trained in the exercise of this vice. The necessary planning demands

prudence, forethought, caution. The choosing of the right moment implies careful observation, judicious estimate of character, and intelligent calculation of probabilities. The actual expedition demands the greatest courage, firmness, self-control. Climbing the tree and seizing the fruit are only possible as the result of the most accurate adjustments of means to ends. All the results aimed at in the most liberal education are here secured; no teacher is required; and the boys enjoy it. Why does not apple-stealing rank with Latin and Mathematics as a mental gymnastic"? The fact of the matter is that the subject of training *is* of importance, and we banish crime from our educational curriculum not because it does not afford scope, but because it gives the wrong kind of scope.

There are educational establishments, however, where crime is the chief thing taught; Dickens has given us a picture of one in *Oliver Twist*. The principals, though they have probably never read a pedagogical work, act on true pedagogical lines. If any one were to tell them that they were Herbartians, the term would carry no meaning to them, and yet they are practical exponents of Herbart's views. The first thing they do with a boy who comes into their hands, is to

set about building up in his mind an apperception mass dealing with crime. They are able to supply him with capital text-books on the subject, in the shape of penny-dreadfuls, where the hero is always a successful criminal; so that the pupil comes to associate criminality with enterprise, dash, adventure, fun, and an inevitable live-happy-ever-after. This fascinating reading-matter is supplemented by a system of the most careful oral tuition, in which criminal life is painted in the most glowing colours, and nothing whatever is said of the seamy side. All the instruction is concrete, and out of the numerous examples offered to his apprehension, the pupil forms for himself general notions, apperception masses by which he now judges the actions of himself and of others. His ideas, too, have a tone of feeling about them; most ideas have; indeed "affective tone" is one of the most effective qualities an idea can have. The feeling gives rise to desire, and the desire to will; for the will, as Herbart says, has its root in ideas.

The pupil in the school for criminality is now ripe for action, and it becomes the duty of the teachers to set the willing instrument to work, to smoothe away obstacles, to supply opportunities, and to ensure that the tasks

shall be graded in a scale of gradually-increasing difficulty. His education completed, the pupil has a very efficient personality; he is sharp, alert, active, observant, skilful. But—note the limitation—much of his efficiency vanishes the moment you take him away from the subject-matter in which he has been trained, viz., crime. Put such a boy on the farm, and the greater part of his cleverness will disappear. We can all judge, reason, think, not so much according to our "natural powers," as they are called, as according to our familiarity with the subject we have under consideration. It is often incorrect to say that such a man is a very clever fellow; we should rather say he is clever in this or that direction: he is clever in subjects where his apperception masses are particularly well-developed; where they are not well-developed he is often quite stupid.

"For each individual," says Professor Adams, "the contents of the universe fall into a Cosmos special to himself, and in the centre of which he stands. The matters in which he is interested crowd close up to the centre, and among them his mind acts freely and rapidly. The farther any matter is from the centre, the less freely does his mind work in it, till at last, at the outer edge of his Cosmos, the mind

reaches an endless fringe of what is practically unknown."

The agricultural labourer judges turnips quite as well as a University professor judges Greek prose. Certainly the latter deals with what is called a higher department of knowledge; but his opinion on a subject of which he knows nothing is no more to be relied upon than is that of the labourer. When we consider that the great Laplace was dismissed by Napoleon for inefficiency, we cannot escape the conclusion that greatness, when tested apart from the apperception masses with which it is familiar, often sinks below mediocrity. Do we not all know men who are dull dogs, indeed, if you take them away from their pet subject, the one in which their apperception masses are exceptionally well-developed? And was it not Goldsmith who "wrote like an angel, and talked like poor poll"?

Train as hard as you like, you cannot generalise habit. Improvement in any single mental function is largely restricted to the subject upon which that function has been exercised. The subject of grammar, we are told, trains the mind to think; yes, but about grammar, not about carpentry, medicine, engineering, or astronomy. Hard work at mathematics develops accuracy, but in figures,

not in geology or the manufacture of boots. A chemist may have cultivated to a fine pitch of discrimination the habit of observation in chemistry; but he does not take his keen observation with him when he goes, say, into a draper's shop. And Latin, though it will foster habits essential to a linguist, will not be of much assistance to an accountant; it can enlarge the circle of his interests, and so be of advantage to his mind in general, but it cannot directly help him to think better as an accountant: that is the province of the apperception mass dealing with accountancy.

But though, as we have just seen, habits are not formed for everything in general, but for one thing in particular, there is a sense in which they *may* be generalised, and that is by subjecting them to a principle, or ideal. Neat writers are not always neat in their dress; those who are invariably punctual at business are not invariably punctual at Church; and a burglar who is obedient during his "six months hard" is not necessarily obedient when he comes out of gaol. No, the only way to make a specific habit general is *to recognise in each instance the significance and reasonableness of the general duty*. In other words, to take one example, we must apperceive neatness not only as a duty in writ-

ing, but as a member of a much larger apperception mass, duty in general.

On this question of habit-formation, Professor MacCunn, in *The Making of Character*, says:—"It is not those outward and overt performances such as we can most easily compel, that really form the habits we call virtues. . . . It is the repetition of psychical states that are the causes of the formation of moral habits. . . . If the psychical states . . . . the strivings of desire, be not induced, the moral habit will not be formed, not even though we could compel the whole physical side of the performance. And, moreover, unless habits are accompanied by insight, they are morally insignificant."

Within narrow limits, however, it must be admitted that any mental exercise whatever *does* develop the whole mind; and just as a man who calls into action, say, his biceps muscle, is indirectly influencing his whole bodily structure, so a man who exercises a specific mental function, is indirectly influencing the whole of his mental organisation. In this way, a ploughman who makes an intelligent study of the Bible will be able to think more efficiently about the day's work than would have been possible for him if he had allowed his leisure to lie fallow.

But even here, if special kinds of skill are required, special forms of training must be adopted. And special training is apt to be overdone. It is unwise to develop the muscles of the arms and neglect those of the rest of the body; and it is unwise to develop the mind in one special direction, and at the same time neglect the formation of apperception masses in other departments of knowledge. A doctor, a lawyer, a grocer, should not confine his attention to his own particular trade or profession, but should study certain other subjects as correctives. Carlyle's corrective was sensational fiction. William Ewart Gladstone's was tree-chopping, postcard writing, or Christy Minstrel performances. Herbert Spencer was fond of billiards. And Darwin bewailed the fact that he had *no* corrective. The phrase "an all-round man" does not exactly express the ideal to be striven for. It would be better to say "an all-round man with a big bulge in one direction." One should not be a "Jack of all trades and master of none": it is better to aim at knowing something of everything and everything of something.

And now let us pause, and examine our conclusions in respect to formal training as opposed to teaching. You cannot train a

mind on nothing; you must have *some* subject on which to exercise it. Suppose you select the subject of watchmaking. The Herbartians say that you may train a man to be a very precise, accurate, observant watchmaker, without making him a very precise, accurate, observant *man*. As long as he is dealing with the apperception masses which cluster round the idea of watchmaking, all these admirable qualities are in evidence, because they are part and parcel of the watchmaking apperception masses. But does not experience show us that the man who is precise, accurate, and observant when dealing with the making of watches, may hang his pictures out of line, may be loose in dealing with money, and may never notice the hat his wife is wearing? He has succeeded, it is true, in forming good habits, but he does not necessarily apply them to matters outside his trade.

Take again the case of another virtue, that of obedience. You may train a boy to be obedient in school, a prisoner to be obedient in prison, a sailor to be obedient on his ship, a soldier to be obedient in his regiment. But is the boy always obedient out of school, the prisoner out of prison, the sailor away from his ship, the soldier from his regiment? Separated

from the apperception masses of which it forms a part, obedience is often of little or no effective force. If you would make the idea a power in all situations of life, you must not only join it to the isolated masses of school, prison, ship, or army ideas, but must apperceive it as a broad general principle common to all: indeed you must regard it as a constituent of one great central mass which is intimately connected with the whole mental content.

What is this great central structure? It is the *ego mass*, without which the mind would have no consciousness of organic unity. The ego mass consists of a number of general notions clustering round the idea of the ego, the central self. A man's general character is largely determined by the nature of the qualities which make up this ego mass. For instance, if we can apperceive the ideas of cheerfulness and gentleness as units of the mass clustering round the idea of duty, and can apperceive duty as a unit of the ego mass, we shall then be in a position to carry cheerfulness and gentleness into every relation of life. The building up of an ego mass is the chief business of moral education.

The question as to the kind of ego mass we should build up, comes within the province of the science of ethics, and here different

thinkers hold different ideas. "Cheerfulness and gentleness," says Robert Louis Stevenson, in a passage which has set teachers and preachers by the ears, "come before all morality: they are the prime virtues." And in another place he tells us that "self-poise is nine-tenths of life." For Ruskin, gentleness and justice come first; while Carlyle emphasises strength and industry. Matthew Arnold rates high the qualities of balance, measure, patience. The Hebrews summed up the whole duty of man in the ten commandments. And St Paul's list is love, joy, peace, longsuffering, gentleness, goodness, meekness, fidelity, temperance, faith, and hope—with love underlying and inspiring all the rest.

For purposes of training, then, what subjects shall we study? Each of them, no matter what it is, has two aspects—the value of the matter studied, its use as information, and the value of the training derived from the study. Herbert Spencer maintains that whatever subjects are most useful in supplying necessary knowledge, are also best fitted for training the mind. And we are to study widely. The increase both of intension and extension is the gauge of the mind's development; the larger our field of interest, and the more intense our interest in that field, the better will it be with us.

The results of good training are well set out by Mr Vachell, in his story, *The Waters of Jordan*, where Dr Tisdale is tempted to lie in order to win Joy Vennable: "And then the innumerable little acts of self-denial and self-sacrifice, the hardships patiently endured, the long hours of tireless ministration to others, the fine thoughts and aspirations which had nourished his mind, these, ten-thousand strong, rose up and stood by him."

CHAPTER XII

OBSERVATION

THE habit of observation is very popular; that is to say, people are very fond of recommending it to others. The educational world is full of Sandford-and-Merton books, Eyes-and-no-eyes series, telling us that we ought to go about the world consciously exercising our minds upon the thousands of allurements that clamour for our notice. When we take a country walk, we are to observe the winds, the clouds, the hedgerows, the fields, the birds, the beasts, the plants, the trees, the hills and valleys, the nature of the soil, the subsoil, and the underlying rocks; we are to note the smell of the freshly-turned earth, the odour of the flowers, the fragrance of the new-mown hay; and we are not to neglect the domain of sound—the songs of the birds, the bleating of the sheep, the lowing of the cattle, the barking of dogs; and so on through a list as long as a pocket dictionary. In a similar manner, when we

walk through the town, we are to observe the men, the women, the horses, the cabs, the carriages, the different varieties of motors, the nature of the pavement, the colours of the bottles in the sweet-shop, the number of buttons on the uniform of a policeman, and the proportion of white horses to be seen on London Bridge. In other words we are to exercise our senses upon, and store our minds with, ideas of a highly miscellaneous character upon subjects in which we take no particular interest, and in which we find it drudgery to accumulate facts.

As an observer of country life, Richard Jefferies is acknowledged to stand in the front rank. Here is a specimen of his work:—"Here and there upon the bank, wild gooseberry and currant bushes may be found, planted by birds carrying off fruit from the garden. A wild gooseberry may sometimes be seen growing out of the decayed 'touchwood' on the top of a hollow withy-pollard. Wild apple-trees, too, are not uncommon in the hedges. The beautiful rich colour of the horse-chestnut, when quite ripe and fresh from its prickly green shell, can hardly be surpassed; underneath the tree the grass is strewn with shells where they have fallen and burst. Close to the trunk the grass is worn away by the restless trampling

of horses, who love the shade its foliage gives in summer. The oak-apples which appear on the oaks in spring—generally near the trunk—fall off in summer, and lie shrivelled on the ground, not unlike cork, or black as if burned. But the oak-galls show thick on some of the trees, light-green, and round as a ball; they will remain on the branches after the leaves have fallen, turning brown and hard, and hanging there till the spring comes again." (*Wild life in a Southern County*, pp. 224, 225.)

Sir Arthur Quiller-Couch has applied this method of observation to a district in London as follows:—"Here and there along the street Grocery Stores and shops of Italian Warehousemen may be observed, opened here as branches of bigger establishments in the city. Three gilt balls may occasionally be seen hanging out under the first-floor windows of a 'pawnbroker's' residence. House-agents, too, are not uncommon along the line of route. The appearance of a winkle, when extracted from its shell with the aid of a pin, is extremely curious. There is a winkle-stall by the South Kensington Station of the Underground Railway. Underneath the stall the pavement is strewn with shells, where they have fallen and continue to lie. Close to the stall is a cab-stand, paved with a few cobbles, lest the road

be worn overmuch by the restless trampling of cab-horses, who stand here because it is a cab-stand. The thick woollen goods which appear in the haberdashers' windows through the winter—generally *inside* the plate-glass—give way to garments of a lighter texture as the summer advances, and are put away or exhibited at decreased prices. But collars continue to be shown, quite white and circular in form; they will probably remain, turning grey as the dust settles upon them, until they are sold." (*Adventures in Criticism*, pp. 223, 224.)

To the countryman, Jefferies' observations would appear trite and commonplace. Everybody—such would be the countryman's verdict—makes these observations easily, naturally, and as a matter of course; to tell a man to note such things is a waste of breath; he cannot help noting them. And the townsman would hold exactly the same opinions about the observations recorded by Sir Arthur Quiller-Couch. In both cases, ease and closeness of observation depend largely upon the apperception masses present in the mind of the observer.

Those who advocate the habit of general observation give two reasons for the faith that is in them. One is, that as we never know what information is going to prove useful to

us, it is well to stock our minds with everything as it comes along. If we treated material objects in this way, we should save up all our broken boot-laces and bits of string, because we might some day need them to tie up a parcel; and we should cram our pockets with an accumulation of old letters, fragments of lead-pencil, and advertisements of things we should like to buy when "our ship lands." The adage, "keep a thing for seven years and you will be sure to find a use for it," is not, it may be, pure nonsense; but if we acted up to it, most of us would be living, not in a more or less tidy house, but on a scrap-heap. The truth of the matter is, that if we try to observe a host of facts in which we take no particular interest, not only shall we have to expend a vast amount of irksome labour, but much of our toil will be in vain, for many of the facts will slip out of the mind almost as quickly as they went in.

The other reason given for cultivating general observation is, that it is highly desirable to train the *faculty* of observation. But, as we have already seen, there is no general faculty of observation. A farmer is trained to observe crops, and one glance at a field of corn will tell him more about it than a hundred glances would tell a collier. Not

that the picture upon the retina of the farmer differs from that upon the retina of the collier. In both cases the physiological stimulus is very much the same. It is the mental reactions that differ, and these depend largely upon the apperceiving masses present in the mind. In the mind of the farmer there is an exceptionally well-developed mass clustering round the idea of crops; so that the physiological stimulus rouses a rich complexity of ideas, and these direct attention to aspects of the stimulus that are quite unnoticed by the collier. But change the object of observation from a cornfield to an underground "stall," and you turn the tables on the two observers. The collier, as he walks along a country road, will be blind and deaf to many things that are patent to the farmer; and the farmer, if he goes down the pit, will be blind and deaf to many things that are patent to the collier. "For the very life of me," says Smith, "I can't make out what Jones sees to like in Robinson." He would see it in a moment, not if he had Jones' physical senses—his own are quite as acute —but if he had Jones' apperception masses. "I never saw a sky with colours like that," an observer is reported to have said in criticism of one of Turner's pictures. "Don't you wish that you could?" was the painter's rejoinder.

The critic would have seen Turner's colours if he had possessed Turner's mental content. People observe according to the apperception masses present in their consciousness.

If you know what are a man's apperception masses you know exactly how he will apperceive a certain impression; and conversely, if you know how a man apperceives a certain impression, you may make a shrewd guess as to his apperception masses. Of three men who look at a field, one may say, "A capital crop of grass!" a second, "What a fine cricket-pitch this would make!" and the third, "Just the place for a cemetery." At the foot of Snowdon I once overtook a navvy, who, pointing to the great mountain bathed in colours of sunset glory, remarked, "A lump o' muck there, guv'nor. It 'ud take a lot o' pick-an-shovel work to shift that!" We certainly all observe in accordance with our apperception masses.

It is therefore absurd to send an ignorant man out into the world with instructions to observe everything. If you want a man to observe widely you must fill his mind with wide knowledge; you must build up apperception masses to correspond with the phenomena he will be called upon to observe. To cultivate habits of wide general observation,

you must cultivate wide general knowledge. An ignorant man does not observe widely: he gapes. In observation worthy of the name, the new perception is apprehended by an organised mass of ideas already in the mind. If there is no mass present to which the new perception can attach itself, the process is one, not of observation, but of gaping.

Professor Adams sums up the position when he says: "To cultivate observation, then, is not to train the eye, the ear, the hand, to extreme sensitiveness, but rather to work up well-organised knowledge within the mind itself. If we desire minute observation in a definite direction we must cultivate special knowledge to correspond. If we wish to encourage general observation, we can only succeed by cultivating wide interests. . . . The reciprocal interaction of interest and knowledge in relation to external facts, is what ought truly to be called observation."

The account given by Herbartians of the conditions of observation should restore the self-respect of many a tender conscience. A man, for instance, takes a holiday at Scarborough or Brighton, and, deeming it his duty to make a personal acquaintance with the wonders of the seashore, sets out to explore the rock-

pools. For a time he is an eager enthusiast, but soon—very soon—his interest begins to flag, his occupation bores him, and he seeks relief in the more congenial task of observing the tobacconists' shops or the antics of out-door entertainers on the sands. At the end of his holiday he reproaches himself with having wasted such a fine opportunity for Nature Study. But he need not be cast down. Conscience has made a mistake. If she wishes to upbraid him, she should do so, not for getting tired of gaping, but for building up an apperception mass concerning tobacco and comic singing instead of one that dealt with Nature Study. Nothing is truer than the dictum, "Where your treasure is, there will your heart be also." With a little alteration this would read, "Where your interests lie, there will your observation be discriminating."

In this connection one might mention the subject of museums. One can understand a specialist enjoying a visit to such a place. He passes by a hundred objects without seeing them; and, halting before one beloved case, he calls up to consciousness a rich, big, well-organised mass of ideas to apperceive the choice collection presented to his delighted gaze; the hours slip by, and the absorbed observer knows

not the flight of time. With the average man things are different. After a cursory stare at the most striking objects, he gapes, grows weary, and goes away determined to taboo museums in future. How can he be expected to observe, seeing that he is minus the know ledge requisite for appreciation? Personally, I sympathise with the average man. For my own part, barring the things in which I am vitally interested, and which are seldom seen in a glass case, I find museums tedious, and would as soon think of visiting one as of reading a column of "snippetty bits," or walking on dried peas.

CHAPTER XIII

JUDGING AND REASONING

In the far distance we see an object approaching us. At first we are not able to say whether the thing is living or inanimate. By and by, however, we perceive that it is an animal, but what kind of an animal, and whether man or beast, we cannot yet make out. As it draws nearer we discover it to be a quadruped, but of what species we are not able to say. At length we perceive that it is a horse, and in the end we recognise it as the butcher's grey mare. At first our knowledge was vague in the extreme, and it was only as our experience widened and became more discriminative that we were able to supply the object with distinctive characteristics.

It is in some such way as this that knowledge of any subject is built up; whether the learner be seven or seventy the process is the same. First a vague, hazy idea, with ill-defined boundaries and no distinct parts; the

process is altogether too formless to merit the name of generalisation. Then come separate and individual notions, from which alone true generalisation is possible. A man who makes a systematic study of botany does not begin with the minute consideration of a single member of a species; he begins by taking a kind of bird's-eye view of the whole science. Then he studies details, particulars, combines them into generals, and at each step compares his conclusion with his bird's-eye conceptions, and corrects the latter. The process, indeed, may be compared to that by which a sculptor carves a statue out of a block of marble. First he roughs out the main outline, then he gradually brings out distinctive figures. Without the process of rough-hewing, the final shaping would be well-nigh impossible.

Romanes gives the name *recepts* to the vague general notions to which we have referred. The difference between a recept and a concept is shown in the following passage from the *Mental Evolution in Man*:—"Waterfowl adopt a somewhat different mode of alighting upon land, or even upon ice, from that which they adopt when alighting upon water; and those kinds which dive from a height (such as terns and gannets) never do so upon land or upon ice. These facts prove that

the animals have one recept answering to a solid surface, and another answering to a fluid. Similarly a man will not dive from a height over hard ground or over ice, nor will he jump into water in the same way as he jumps upon dry land. In other words, like the water-fowl he has two distinct recepts, one of which answers to solid ground, and the other to an unresisting fluid. But unlike the water-fowl he is able to bestow upon each of these recepts a name, and thus to raise them both to the level of concepts. So far as the practical purposes of locomotion are concerned, it is of course immaterial whether or not he thus raises his recepts into concepts; but . . . for many other purposes it is of the highest importance that he is able to do this."

Not only do we learn individual branches of knowledge in the manner just indicated, but, according to Sir William Hamilton and Dr Lange, the development of each individual mind follows the same law. The educated man is distinguished from the lout, not so much by the greater number of his general notions, but by the discrimination of the parts of these notions, and the subsequent building of the parts into systematised generalisations. The ploughman has a notion of astronomy; so has the astronomer. The former's notion is

vague and hazy in the extreme. But the astronomer, starting from the same point as the ploughman, has collected individual facts, and combined them into a magnificent system of general laws. Tennyson and the scribbler of doggerel both have a notion of poetry; the saint and the hooligan both have a notion of morality. With the saint and the poet, however, the notions are highly-elaborated concepts; with the hooligan and the scribbler they are little more than recepts.

We might put the conclusions arrived at by Lange and Hamilton in the form of an equation. If A stands for the total concepts of an educated man, B for his total recepts, C for the total concepts of a lout, and D for his total recepts, then the numerical relation might roughly be expressed by the formula:—

$$A + B = C + D$$

where A is greater than C, and D correspondingly greater than B.

"We ought," says Aristotle, "to proceed from the better known to the less known, and from what is clearer to us to that which is clearer in nature. But those things are first known and clearer, which are more complex and confused; for it is only by subsequent analysis that we attain to a knowledge of the parts

and elements of which they are composed. We ought, therefore, to proceed from universals to singulars; for the whole is better known to sense than its parts; and the universal is a kind of whole, as the universal comprehends many things as its parts. Thus it is that names are at first better known to us than definitions; for the name denotes a whole, and that indeterminately; whereas the definition divides and explicates its parts. Children, likewise, at first call all men fathers, and all women mothers; but thereafter they learn to discriminate each individual from another."

Suppose, by way of illustration, that we are beginning the study of, say, spiders. We start with a vague, hazy notion that a spider is a nasty creature which it is unlucky to kill, and which spins webs that offend the eye of the careful housewife. Then we go on to make, it may be, three further observations about it, viz., that it has eight legs, that its body is sharply divided into two regions, and that it is never winged. Each of these new facts has dispelled some of the vagueness with which our former idea of a spider was shrouded; and if we went on accumulating them, the vagueness would gradually disappear. Not only would this happen, but presently we should be able

to classify the facts we had observed, combine them with our original conception, and evolve an idea of a spider, not as a piece of hazy formlessness, but as a definite organic whole of beautifully-proportioned parts.

We may express our three observations as follows :—

The spider is possessed of eight legs.
The spider is possessed of a two-section body.
The spider is not possessed of wings.

Each of these three sentences expresses a *judgment.* It will be noticed that in every example there are two notions. In the first, for instance, we have the notion "the spider," and the notion "possessed of eight legs." The notion "the spider" is the whole, and the notion "possessed of eight legs" is a part of that whole, being only one of the many qualities or attributes that a spider possesses. The word "is," that unites these two notions, is called the *copula.* The whole, "the spider," concerning which we make the assertion, is called the *subject*; the part, "possessed of eight legs," the assertion we make concerning that whole, is called the *predicate.* The mental judgment, "the spider is possessed of eight legs," formed by the union of subject,

copula, and predicate, is called, when put into words, a *proposition*. "In fine," says Crousaz, "when we judge we must have, in the first place, at least two notions; in the second place, we compare them; in the third, we recognise that the one contains or excludes the other; and, in the fourth, we acquiesce in the recognition."

It is by means of a series of judgments that a concept mass is built up. Thus, our conception of a spider is built up of the judgments enumerated above. During the process of building, each fresh observation is, for us, a new discovery; and, by a process of synthesis, the new fact is combined—speaking in Herbartian terms—with the apperception mass clustering round the word "spider." Once the new knowledge is assimilated, it becomes part of our mental furniture, our apperception masses; and, when at any future time we give utterance to the old judgment, we are selecting it from a mass of other judgments about spiders, and the process is one of analysis. In this way, a judgment about spiders may be synthetic to a man ignorant of the subject, and analytic to one who has studied it.

On this point Mr Titchener well says:—"Judging, thinking, is a process of rare oc-

currence in consciousness. Man has . . . defined himself as a rational animal; but he rarely thinks. For we are, all of us, born into a society where judgments await us ready-made; every generation receives a heritage of judgments from the preceding generations. Hence facts that caused our ancestors immense pains to work out come to us as matters of course. Society is already organised: then we need not trouble ourselves to make judgments about social organisation. A form of religion is established: we need not judge for ourselves in religious matters. A code of conduct has been laid down: we need not judge in matters of conduct. The applications of scientific principle are to be seen all about us: we need not understand the principles, we may take the steam-engine and the telegraph for granted. Life is made smooth for us by the accomplished work of past generations. And even if we wish to judge for ourselves, there are so many past judgments on record in books, and so many others to be had for the asking from our elders, that independent thought is difficult. It follows from all this that propositions like, 'The grass is green' are not judgments at all; they do not express results which we have gained laboriously by active attention. That they have the form of

judgment may be due either to the fact that they were judgments once generations ago, or merely to the fact that we cannot utter more than one word at a time, and must therefore give the parts of our idea successively." Mr Titchener would here seem to restrict the use of the word "judgment" to the synthetic process; in these pages, however, it is applied also to the process of analysis; the reader will do well to bear this in mind.

The term "judgment" corresponds closely with the Herbartian "apperception." If we wish to be men of good judgment, we must have good apperception masses. If we wish to judge well of spiders, honesty, bi-metallism, heredity, our knowledge of these must be accurate, extensive, varied, and recent. But to judge well of one does not necessarily mean to judge well of all. There are farmers whom the cleverest sophist would utterly fail to deceive on a question of bullocks, who can judge much better about bullocks than a Solomon or an Aristotle, but whose opinion on a point, say, of theology is of little or no worth. There is no general faculty of judging. Judging is almost entirely a matter of apperception masses.

In one sense all *human* judgments are partial, and grossly unfair. If I say, for

instance, that John Brown is bad-tempered, I take the whole John Brown, and, selecting one of his qualities from the rest, assert that John is bad-tempered. But John has many more qualities than bad temper; indeed, the sum of his qualities, his relations to other objects in the universe, is practically infinite, so that I might make an infinity of judgments about him. When, therefore, I select the quality or relation of bad temper I am doing an injustice to the others; I am emphasising one aspect and totally neglecting the rest; I am looking solely at one face of an object that has myriads of faces; I am giving a one-sided, and therefore false view of John. But I cannot help it. Human reason must be content to take one fact at a time, and seek for truth by slow and often uncertain steps. It is only an All-seeing eye that can visualise the whole of John at a glance, and, with no emphasis or selection, get a true picture of him. To judge justly in the fullest sense of the term—is the province of God alone.

From judging to reasoning is only a step, but it is a most important one. Much of our thinking consists of trains of images, a sort of spontaneous reverie in which one thing suggests another. This, though it often leads to rational conclusions, is not reasoning. It deals, for

the most part, with concrete things, not with qualities abstracted from these concrete things. After thinking of one we find later that we are thinking of another, at which we have arrived we scarce know how.

True reasoning consists in passing from one or more judgments to others founded upon them. It is of two kinds, *deductive*, which applies general principles to particular cases, and *inductive*, by which we arrive at general principles through a consideration of cases that are individual and particular. Let us take an example of deduction.

A mercury compound is poisonous: that is the general principle. A particular instance of a mercury compound is vermilion. The assertion regarding the general principle embraces all particular instances; therefore, as a mercury compound is poisonous, vermilion is consequently poisonous also. The series may formally be set out in three propositions.

A mercury compound is poisonous.
Vermilion is a mercury compound.
Therefore Vermilion is poisonous.

The third proposition is called the conclusion, of which the "vermilion" is the subject and "poisonous" the predicate. Of the other two propositions, the one containing the subject is

called the minor premise, and the one containing the predicate is called the major premise. It will be noticed that we arrive at the conclusion, "vermilion is poisonous," by bringing in the middle term, "a mercury compound." Reasoning involves the use of a middle term; it is the bridge that carries us over from one conclusion to another.

In logic, this series of three judgments is termed a syllogism. A syllogism, says Aristotle, is an argument in which, something being granted, something further necessarily follows from it. First we have the general principle, in this case "a mercury compound is poisonous"; second, the instance we are considering, "vermilion is a mercury compound"; third, the application of the rule to the example, "vermilion is poisonous." If we denote the subject of the conclusion by S, and the predicate by P, we bring them into connection by the middle term M. We may then symbolise deduction generally as follows:

All M is P
This S is M
Therefore this S is P

Thus, deduction is a means of bringing two ideas, or groups of ideas, which are not directly connected, into indirect connection by means

of their common relation to a third group; and the process calls for both knowledge and sagacity—both are essential to good reasoning.

We do not, of course, always deduce our conclusions in this formal manner. For instance, it is an example of deduction to judge that it will rain to-morrow from the appearance of the clouds to-day. Here we proceed from the judgment, "the sky is lowering," to the conclusion, "it will rain to-morrow." Usually, the way in which the conclusion at which we arrive is connected with the judgment from which we start, is left to be filled in by the hearer. In the above case we do not explicitly state that a lowering sky generally precedes rain, but leave that premise to be supplied by the man whom we are addressing. But though we do not always state our syllogisms formally, it is an advantage to be able to do so, in order to correct ourselves when reasoning wrongly, or to verify our conclusions in cases of doubt.

In induction, we arrive at general principles from a consideration of the particular instances that have come under our notice. Thus, this man is mortal, that man is mortal, the other man is mortal; therefore all men are mortal. The important point here is to know how far we may apply to a whole class what holds good in the cases we have considered. For example,

should we be justified in concluding that because Hector Macgregor wore a kilt, and Sandy Macgregor wore a kilt, therefore all men of the name of Macgregor wore kilts?

We are all constantly generalising from particulars, and for the most part without any conscious effort of thought. Thus, if the colour black enters into the child's perception of a cat on every occasion, black becomes a part of its representative image or concept of a cat, and the thought of a cat invariably calls up the idea of black.

To generalise accurately, however, our experience must be both wide and varied. It must be varied, so that we may not only observe the things about which we are generalising, but also observe them under all manner of circumstances; it must be wide, so that the repetition of experiences of the same kind may fuse, and so make a deeper, more definite impression upon us. Darwin may be quoted as an example of industry and patience in making wide and varied observations before venturing upon a generalisation. After commencing his note-books, he waited twenty-one years before publishing his views in the *Origin of Species*. But there are few Darwins. Most of us too often "jump to conclusions." We generalise too easily,

sometimes from a single solitary example, and so it is not to be wondered at that we arrive at conclusions of error.

In complete induction we argue from particular instances to others which are exactly like them. When the likeness is not complete we use the method of analogy, which argues that because one thing resembles another in a certain particular, it resembles it in another particular. There is no more fruitful source of mistakes in reasoning than analogy and metaphor. A good example is given by George Eliot in *The Mill on the Floss*, where Mr Stelling, Tom Tulliver's tutor, "concludes that Tom's brain, being peculiarly impervious to etymology and demonstration, was peculiarly in need of being ploughed and harrowed by these patent implements. It was his favourite metaphor, that the classics and geometry constitute that culture of the mind which prepares it for the reception of any subsequent crop." In criticising this view the author says: "I only know it turned out as uncomfortably for Tom Tulliver as if he had been plied with cheese to remedy a gastric weakness which prevented him from digesting it. It is astonishing what a different result one gets by changing the metaphor."

Before concluding this chapter, it may be

helpful to give a few brief hints and cautions as to the conduct of the reasoning and judging processes.

1. Let your generalising be based upon wide and varied examples; do not generalise too rapidly; and do not neglect contrary instances.

2. Beware of individual and class bias; try to fit all your conceptions, not to your little local world, but to the larger world of life in general. It is, however, easier to give this advice than to act upon it; indeed, probably no man can act upon it fully, though much may be done by careful, persistent endeavour. Strive as we may, we cannot *entirely* escape bias or prejudice. If all our notions of things conformed to the standard of the dictionary definition there would be little difficulty; but they do not. Our definitions depend upon our apperception masses; these are psychological, not logical, and so vary with each individual mind. It is not so very long ago since an English labourer's concept of a Frenchman was a kind of frog-eating biped, differentiated chiefly from the monkey, not so much by the gift of speech, as by the habit of wearing clothes. And even now, some of us have difficulty in conceiving of an angel that has not an English type of face.

3. Look well to the meanings of words. See that your terms are strictly defined. You cannot be too accurate in your association of words and ideas.

4. Beware of entangling yourself in simile or metaphor.

5. Cultivate concentration.

6. Practise the art of drawing distinctions.

7. Do not first frame your hypothesis, and then endeavour to squeeze your facts into it.

8. Allow for the fluctuations of mood.

9. And remember the close connection between good health and clear thinking.

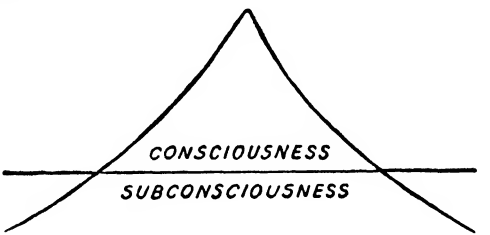
CHAPTER XIV

ATTENTION

THE function of attention is to single out from consciousness one idea for special treatment. If we regard attention as a force, it may either be diffused over the whole of our consciousness, or concentrated on one idea; in the latter case, what the favoured idea gains, the rest lose. When I lie on my back in the sun, resting, and thinking of nothing in particular, my attention is diffused; I am conscious of grateful warmth, of ease and comfort, of the songs of birds, the blue of the sky, and so on; while in the background of my mind there is perhaps a memory of past duties done, and an anticipation of enjoyable leisure to come: these, and probably other ideas, are present together in consciousness, and the total force of my attention is diffused or scattered amongst them. But should a bee sting my cheek, my attention flies from every other idea and is concentrated upon the bee-sting. Applying Mr

Lloyd Morgan's wave conception, I may say that before the advent of the bee my wave of consciousness was something like this:—

The sting, however, changed it into something like this:—



where the attention is concentrated, as it were, on the apex, the bee-sting.

We attend to an idea, not for the sake of the actual object—at first sight this assertion may appear strange—but for the sake of the feeling, or emotional accompaniment. If bee-stings did not hurt, they would have little claim to notice; and it is easy to see that I attend to mine, not for the sake of the thing itself, but because of the suffering it entails. And, in a similar way, if I attend to the idea

that somebody has left me a fortune, it is not for the sake of the fortune—I should not attend to it at all if I had no feeling about it—but because the thought of lashings of money makes me glad. For me, ideas take rank, not only and always in accordance with their intrinsic importance, but also because of their emotional accompaniment, of the feeling they inspire *in me*.

Now this emotional accompaniment is always attended by interest, which, as we have just seen in the above instances, may be either pleasant or unpleasant. People when they speak of being "interested" in a subject generally mean pleasurably interested, but it is well to remember that interest has another side. We attend to a thing, and we are interested in it. Observe that we do not attend *after* our interest is roused; attention and interest are simultaneous; they are properties of the idea, as it were the back and front of it; one does not exist without the other, and neither can exist without the cognition, the intellectual basis, the idea. If I go to a concert, I attend to the music, and feel pleasure; but if I attend to the pleasure, to the exclusion of the music, the pleasure vanishes. There is no such thing as the direct pursuit of pleasure; or, if there be, it is bound to end in failure. Pleasure

can only be pursued indirectly, and as the concomitant of the idea.

There are three forms of attention: Passive, Active, and Secondary Passive.

Certain phenomena force themselves upon our notice, and we must attend to them whether we will or no. Such are violent pains, bright lights, loud sounds, brilliant colours, moving objects, and so on. We attend to these things automatically, without conscious effort, and by a process of *passive attention.*

On the other hand, there are times when we hold our minds upon an object as it were by main force, and with a distinct feeling of effort: this is *active attention.* In passive attention we seem to let ourselves drift with the stream, or, in George Eliot's phrase, "we yield to the solicitations of circumstance": in active attention we try to shape our own course, and instead of allowing circumstances to mould us, we try to mould circumstance. Active attention is the way of self-control; it guards us against that flightiness and listlessness which are the bane of the mental and moral life.

Active attention, however, may pass over into *secondary passive attention.* A botanist may be so engrossed in the examination of a tiny plant as to fail to hear the savage bellow-

ings of an approaching bull. The plant had no intrinsic right to engross his consciousness as it did, and in a scale of natural impressiveness the bull would easily come first. How, then, did the plant attain its superiority? The process was probably as follows:—When the botanist began the study of botany, he had to attend to a plant actively, and with conscious effort; but the more he learnt about plants, the easier it was for him to attend to them; until at last he reached a point where it was easier for him to attend than not to attend: he had developed a strong secondary passive attention towards plants. In Herbartian terms, it was only after he had built up a big apperception mass dealing with plants, that secondary passive attention became with him a strong motive power. One of the chief aims of education is to develop secondary passive attention; and this can only be done by building up powerful apperception masses, so that any fact connected with them must arouse attention irrespective of the will.

"Secondary passive attention," says Titchener, "is the chief condition of human progress. The more a piece of work is reduced to a matter of course, the more power has the mind to advance to further work. This becomes natural and easy in its turn, and gives place to

new work; . . . Active attention thus appears as a stage of waste, a stage to be got rid of. At the same time it is a stage that must be passed through, and passed through again and again, if knowledge is to grow and character to be rightly moulded. The child who did not pass through it would remain at the level of the animals, the sport and play of any great or striking or novel occurrence in its surroundings. Active attention is the battle that must be won by those who mean to master their surroundings and rise to man's full height above the animal world."

The act of attention is accompanied by certain bodily changes. In other words, when we attend to an object we put ourselves into that bodily attitude likely to help us in using that sense-organ to which the object appeals; the muscles are braced up, the head is held firmly in a certain position, the breathing is kept as steady as possible, and the heart beats more strongly and quickly. These changes are thus of three kinds: vasomotor—changes in the circulation of the blood; respiratory—changes in breathing; and motor—changes in muscular tension.

We can often help ourselves in the mental act of attention by putting ourselves in favourable bodily attitudes. We cannot of course

directly control the beating of our hearts, but we can control our breathing and our muscles. No man is able to do intense mental work while he lolls in unbuttoned ease in his arm-chair. Brace up the muscles, hold the respiration steady, and attention comes almost automatically. Thring says that if a boy is allowed to maintain the attitude of inattention nothing can make him attentive. Professor Stout, who denies any causal connection between muscular action and attention, admits some connection when he says, "muscular adjustment is the support of attention but not, strictly speaking, an integral part of it"; but perhaps this does not seriously diminish the great educational importance of the muscular accompaniments to attention.

In connection with the subject of bodily attitude, a reference to the curious Lange-James theory seems in place. This theory reverses the usual view of the relation between emotion and expression, and holds that "the bodily changes follow directly the perception of the exciting fact, and that our feeling of the same changes, as they occur, *is* the emotion." The general opinion is that we see an amusing sight, we feel amused, and then we laugh: the Lange-James theory says we see the sight, we laugh, and *then* we feel amused; someone

strikes us, we clench our fists, and *then* we feel angry; we see a mad dog approaching, we start to run, and *only then* do we begin to feel fear.

Now if there is any truth in this theory, it can be of the greatest use to us in the practical conduct of life. To look pleased will help us to feel pleasant; to put on an aspect of cheerfulness will help us to feel cheerful; and if we suppress all bodily signs of fear or rage, the fear or rage will vanish. To a certain extent this principle is already acted upon. We count twenty before replying to an angry speech; the act of counting inhibits the muscular movements accompanying retaliatory feeling; and if we can succeed in *quite* inhibiting these movements, both exterior and interior, the anger dies away. We whistle when we pass a churchyard at midnight; the act of whistling inhibits the muscular movements accompanying a state of fear; and if we can succeed in *quite* inhibiting these movements, both exterior and interior, the fear goes. We approach a momentous interview, and find that the self-confidence necessary for the interview has somehow vanished; this will never do; so we square our shoulders, puff out our chest, and put down our feet with the stamp of a man who

knows his own mind and means to have his own way; the bodily attitude helps to bring back the requisite feeling; and we march into the room fully equipped for the struggle. In this connection it would be instructive to collect and tabulate the experience of the stage. It has been said that there is certainly evidence in support of the contention that actors who have, for some time, taken the part of the villain in the piece, and who have systematically assumed the bodily expressions of villainy, have eventually suffered a deterioration of moral fibre thereby.

Coming back to attention proper, we notice first that we cannot attend to the same thing for long. The wave quickly rises and quickly falls. The longest stretch of attention possible is perhaps not more than thirty seconds, and the average is no more than five or six. When we seem to be attending steadily to some one thing, we are attending to its different aspects, and the attention passes from one aspect to another in a series of spurts or jerks. We may read the same book for hours together, but the topics are constantly changing, the ideas come in quick succession, and instead of one steady flame of attention we have thousands of intermittent sparks.

By an active effort a man may fix his attention on some particular idea, but he cannot keep it there. If that idea forms one of a powerful apperception mass, the attention will flit from one of the constituent ideas to another, and in this way we may attend to the same *subject* for quite a length of time. Men of genius, whose minds contain peculiarly rich apperception masses, may in this way remain absorbed for days in the contemplation of the different aspects and relations of a favourite idea. But commonplace men of meagre education could not think of the same subject for more than half a minute at a time. A statesman might consider a question of statesmanship for ten hours at a stretch, where a ploughman would not be able to attend to it for ten consecutive seconds. *Fixing* the attention, then, as distinguished from merely calling it up, involves the formation of powerful apperception masses.

In the second place, we cannot attend to many things at once. It is not correct to say, however, that we cannot do two things at the same time. A painter, for instance, may paint, smoke, and carry on a conversation simultaneously; and a housewife may go even further than this: she may knit, read the paper, rock the cradle, sniff the cooking of the

dinner, and listen for the footsteps of her husband—all at one and the same time. We may do two, three, even four or five things together, if some of them are habitual, and so make no great claim on our attention. When they are not habitual, however, the attention, though it may seem at the first sight to be fixed on all at the same time, really flits rapidly from one to another. We gain time by doing two things at once, when one of them is habitual, automatic; we do *not* gain time when both make considerable demands on our attention.

The physiological conditions of attention are interesting. We may consider the nerves which run from the sense-organs to the brain as railway-lines. These form junctions, first in the lower centres, the grey matter of the brain. From these junctions they run on till they once more converge, this time in the various sense-centres of the brain-cortex. From both sets of junctions other lines run *out*, either directly, or indirectly by way of lower centres, to the muscles. At the beginning of our development in any subject, outside stimulus takes a through ticket right to the cortical centres, and these centres send out motor impulses to the muscles. When the stimulus has grown habitual, the passenger

seldom goes beyond the junctions in the lower brain-centres, the grey matter: in other words, it does not reach consciousness at all, but the lower brain-centres send out messages direct to the muscles without troubling the cortex to take a hand. This happy arrangement greatly economises mental force. When, for instance, we are learning to play the piano, we have the labour of calculating which dot upon the instruction-book represents which note upon the key-board, and which particular finger is to be placed on which particular key. As we continue to practise, however, our playing becomes more and more automatic; until at length many of the stimuli never reach the cortex, never give rise to conscious attention, but are reflected from the lower brain-centres direct to the muscles of the arms and the fingers. In this way we are able to concentrate our attention upon the idea embodied in the music, and the best way of expressing it by our execution.

The physiological process, however, has a further complication. From the cortical brain-centres, nerves run to intermediate areas termed the *associative areas of Flechsig*. It is upon the development of these associative areas that the building-up of apperception masses largely depends. If a mass is large

and well-organised, then a stimulus to a cortical centre is succeeded by a complexity of currents to the associative areas, and with each of these latter stimuli another aspect of the idea is brought forward.

A word of consolation to those who are naturally inattentive. More important, probably, than attention, is the strength of a man's desire and passion, the strength of his interest. "Concentration," says James, "memory, reasoning power, inventiveness, excellence of the senses—all are subsidiary to this. No matter how scatter-brained the type of a man's successive fields of consciousness may be, if he really *care* for a subject, he will return to it incessantly from his incessant wanderings, and first and last do more with it, and get more results from it, than another person whose attention may be more continuous during a given interval, but whose passion for the subject is of a more languid and less permanent sort. Some of the most efficient workers I know are of the ultra-scatter-brained type. One friend, who does a prodigious quantity of work, has in fact confessed to me that, if he wants to get ideas upon any subject, he sits down to work at something else, his best results coming through his mind-wanderings. This is perhaps an epigrammatic exaggeration on his

part; but I seriously think that no one of us need be too much distressed at his own shortcomings in this regard. Our mind may enjoy but little comfort, may be restless and confused; but it may be extremely efficient all the same."

CHAPTER XV

INTEREST

We saw in the preceding chapter that interest and attention are, as it were, two facets of a cognition, an idea. The greater our interest in an object, the greater is the attention we bestow upon it. Perhaps the most important object a man can have is himself, and in that case he naturally bestows the greatest amount of attention on his own concerns. It is not true, however, to say the greater the attention the greater the interest. A boy who is put to rock the cradle, does not find his interest growing with his attention, until he hates to tear himself away for a game of cricket; and the more I attend, say, to a black dot on my blotting-pad, the less it interests me. Teachers sometimes talk of creating an interest in a subject; but they cannot do it; all they can do is to build up apperception masses, of which interest will be the invariable accompaniment; they can, in fact, direct and not create interest.

At first, a child's interest is purely passive or involuntary. He attends to loud or pleasing sounds, brilliant colours, a bright light, moving objects, dramatic incidents, and so on. At this stage the teacher's function is to supply objects for observation and to direct attention to them. Many savages, and some people in civilised countries, never get much beyond this first stage. Sensational novels would not be so widely popular were it not that so many readers live in the elementary stage of the development of interest.

In the second stage, the teacher introduces, say, the idea of reward-and-punishment. He associates the interesting idea of reward-and-punishment with others not naturally interesting, as, for instance, the multiplication table; and the thing that is naturally uninteresting, gains interest as it were by reflected light. Thus things not interesting in their own right borrow from a naturally interesting object an interest which becomes as real and strong as that accompanying the idea of the naturally interesting object. The most interesting subject to a man is his *ego*; and accordingly, as soon as a thing becomes associated with one's own fortunes, it forthwith engrosses one's attention. I do not feel greatly interested in a broken bootlace when it belongs to a tramp,

but if it is my own bootlace, that is quite another matter. The interesting idea of the ego robs drudgery of much of its deadly dulness, and makes it tolerable. When we remember that one interesting idea may have many associations, or, in Herbartian terms, be a member of many apperception masses—and that it not only carries its interest wherever it goes, but also infects the associated ideas, we need not despair about making even the most unpromising study in some degree interesting. It is in the second, the associative, stage that the work of education begins to show.

In the third and final stage, that of secondary passive interest, the apperception masses are so organised that attention can be maintained with the minimum of active interest and effort. The interests of an educated man are mostly of the secondary passive type; they have been gradually built up, and are in a sense artificial. The cry of "back to the simple life"—if by that is meant, back to the life of sense, involuntary interest, and active effort—is thus a cry for degeneracy, and is based upon a misconception of psychological principles.

But objections have been made to the Herbartian doctrine of interest. Some people say it leads to selfishness. As an answer to this, it may be stated that the interest

advocated by Herbart is not narrow and individual, but of a wide and general type. Moreover, interest is not always synonymous with pleasure. George Eliot well expresses the Herbartian conception in the following passage from *Romola*: "It is only a poor sort of happiness that could ever come by caring very much about our own narrow pleasures. We can only have the highest happiness, such as goes along with being a great man, by having wide thoughts, and much feeling for the rest of the world as well as ourselves; and this sort of happiness often brings so much pain with it that we can only tell it from pain by its being what we would choose before anything else, because our souls see it is good."

Again, it is sometimes asserted that interest weakens the moral fibre. Those who say this, urge that if we make all our school subjects interesting, and so accustom boys to work only at what interests them, we shall send them into the larger world unprepared to tackle the many uninteresting tasks they will be called upon to perform; and so the poor boys will live to curse us and our doctrine of interest. In other words, if we do not accustom them to face drudgery in school, how will they be able to face drudgery in

business? The reply to this is that the Herbartians do not propose to banish drudgery, but rather to give it a meaning, an interest. A long course of drudgery on the treadmill does not brace a prisoner to face the drudgery of brick-laying when he comes out of gaol; it breaks his spirit. Drudgery *is* a treadmill, unless you can give a meaning to it, import an interesting idea. If you want to brace a man or a boy to face a bit of drudgery, import an interesting idea. Interest does not mean absence of effort; the belief that it does, lies at the root of the fallacy that interest is enervating.

When I was a boy, I lived near a farmer, who, as a matter of course, had never heard of Herbart; but he had a firm grip on the Herbartian doctrine of the relation of drudgery to interest. Every night he had to chop a quantity of hay for the horses; and, as there are few more monotonous occupations than turning the handle of a chopping-machine, he looked about him for some means of escape. At that time, half a dozen of us boys used to come playing around the stables. The farmer called us together, and showed us a few pretty feats of strength—he was a powerful man, and could play with fifty-six pound weights as we could with cocoanuts. Did we wish to do

what he did? Very well, then, he would teach us. First of all, it was necessary to develop the muscles of the arms, and there was no better exercise for that than chopping. We began to chop—a task we should have loathed before. If we could turn the handle one day a hundred times without a rest, and a hundred-and-ten the next, we were jubilant; and our respect for each other could have been expressed numerically in terms of the revolution of a handle. Chopping became a passion. Every morning we held a physical-culture school in the barn; and if we could have chopped hay for the whole village we should have been grateful for the chance. And all this, be it remembered, not for the sake of the constant, dreary, deadly, soul-killing monotony of turning a crank; but because an imported interest had transfigured a weary horror into a source of thrilling joy.

Once more, some people object that the doctrine of interest leaves no room for training the sense of duty. Here the assumption is that matters of duty are unavoidably uninteresting—a fallacy that is deeply rooted in many minds. All our acts do not fall naturally into two great classes—those that we do because we like to do them, and those that we do because we must. It is a great mistake to

assume that these two classes are mutually exclusive, and to identify duty with the second class alone. So far from decreasing the power of the sense of duty, the Herbartians would increase it by incorporating it as an interest in every apperception mass within the mind.

Interest being a matter of apperception, it is often found that some people cannot supply the masses necessary for appreciation of, or interest in, a given subject. Others, though they once could rely on these masses, have now allowed them to remain so long and so continuously below the threshold of consciousness, that they are, so far as practical utility is concerned, well-nigh dead and buried; the people themselves, we say, have outlived the stage at which the subject in question was found interesting.

In Darwin's autobiography, there is a passage bearing on the subject of allowing apperception masses to remain undisturbed below the threshold of consciousness. It is well worth quoting, and runs as follows—"Up to the age of thirty or beyond it, poetry of many kinds gave me great pleasure; and even as a schoolboy I took great delight in Shakespeare, especially in the historical plays. I have also said that pictures formerly gave me consider-

able, and music very great, delight. But now for many years I cannot endure to read a line of poetry. I have tried lately to read Shakespeare, and found it so intolerably dull that it nauseated me. I have also almost lost my taste for pictures and music. . . . My mind seems to have become a kind of machine for grinding general laws out of large collections of facts; but why this should have caused the atrophy of that part of the brain alone on which the higher tastes depend, I cannot conceive. . . . If I had my life again, I would have made a rule to read some poetry and listen to some music at least once every week; for perhaps the parts of my brain now atrophied would have thus been kept alive through use. The loss of these tastes is a loss of happiness, and may possibly be injurious to the intellect, and more probably to the moral character, by enfeebling the emotional part of our nature."

Darwin allowed some of his higher interests to lapse. Many of us do the same, and, like Darwin, we are the poorer for it. Polonius may have been a fool, but, on occasion, he could utter words of wisdom. He did this when he said to Laertes,

"Those friends thou hast, and their adoption tried,
Grapple them to thy soul with hoops of steel."

Friends? What better friends could a man have than the higher interests?

On what does the interest of a book depend? Why, for instance, should a volume of Stevenson rivet my attention, while my next-door neighbour would not read a page of it, but would devour everything I gave him about dogs? Why should a housemaid be interested in love-stories, and a boot-black in a table of cricket-averages? Why should my little girl lose herself in a fairy-tale, while her schoolmistress gloats over a stiff bit of Latin prose?

These questions seem to suggest two thoughts. First, that the interest of a book depends upon its subject-matter. But subject-matter can be arranged in no definite general order. Each mind has an order for itself, and for itself alone. Our interests are determined for us by our apperception masses. In my own case romantic fiction would stand high on the list; in that of my neighbour, it is conceivable that dogs might come before religion.

Second, there are natural stages in the mind's development. For instance, a book on metaphysics *could not* interest a child of six, neither would a love-story be likely to appeal to a strong and healthy boy of thirteen. Ziller gives the natural stages as five in number; he

terms them culture-epochs. Though they have to do with moral more than intellectual development, they should be useful for indicating the kind of teaching fitted for different periods of growth, and may help us to judge as to what subjects and books are suitable or not for particular cases. They are as follows:—

1. The person subjects himself, first of all, in pure childish confidence, to authority.

2. His own thoughts must then move freely in that sphere which is ruled over by authority.

3. He must recognise and love the highest authority.

4. He must learn to work in its service toward the goal of a moral and religious culture of his own inner being, as well as—

5. For that of the larger community to which he will belong.

But there is yet another aspect. All books on the same subject are not equally interesting. Interest in a book depends also upon the way in which the new knowledge is presented. In other words, it depends not only upon the matter, but also upon the style. The body requires certain substances for its nutriment; these are for the most part present in sawdust, yet the digestion would rebel against such a diet; it would not object to the matter so much as to the style in which it was pre-

sented. We may be hungry, and have good food put before us, but if it is served up in an unsavoury form we often fail to touch it. As it is in things of the body, so is it in things of the mind: the food must be suitable both in matter and style; in each case there are cooks whose touch is death to appetite.

Finally, to interest us a thing must find a natural place in our world of thought. Anything entirely strange, which we fail to apperceive by our present mental content, leaves us cold and unresponsive. Interest, therefore, depends not only upon the nature of the new solicitation, but also upon its relation to our apperception masses.

CHAPTER XVI

SOME PRACTICAL CONCLUSIONS

As interest comes from within, and depends primarily upon apperception masses, it follows that if a teacher knows the contents of a child's mind, and also knows the laws of mind, he can go far towards moulding the child's intellect, emotions, and will. A Swiss peasant will carve from a block of wood a dog that can almost bark ; if I attempted the same task I should be lucky if I came so near the mark as to have my production recognised as a sheep. In wood-carving as in mind-carving it is your finished artist who turns out good work ; the bungler simply botches. When this fact comes to be realised fully, teachers will have what is commonly termed "a warm time." They will find themselves once more in the era of "payment by results." But the results looked for will not be merely a mechanical accuracy in reading, writing, and arithmetic, or a portentous memorising of the classics.

What we shall look for will be mind-building. Primarily and chiefly, we shall expect the teacher so to shape the child that the latter may be fitted to take his place in the family, the society, and the nation, of which he will form a unit.

The true test of education is not the amount of knowledge amassed, so much as the strength, the kinds, and the varieties of interests aroused; the ideally-educated man is the man of many-sided interest. A pupil who takes up what his teacher terms "the study of Shakespeare," may learn the derivation of every word, and be able to analyse every sentence, yet still be profoundly ignorant of his subject. If he comes away from his study with no interest in Shakespeare his education *as* Shakespeare-education is absolutely worthless; nay, it is vicious, for it gives him a wrong conception of an important branch of knowledge. To educate a pupil in Shakespeare you must teach him to be interested in Shakespeare.

It has been said that one multiplies one's mental efficiency by every language one learns. Though this statement is open to grave doubt in the case of languages, it may certainly, with some modification, be applied to interests in general. The more interests a

man has, the better it is with him. Your man of one idea may be very useful to society—not *in* society—but he is only a means, not an end in himself. The man who devotes his whole life to one of the many processes that go to the making of a pin, has been useful *to* society in that he has enabled it to obtain a good, plentiful, and cheap supply of pins, but he has been of little general use *in* society, apart from purely automatic functions. And no one could possibly say that pin-making has "made a man of him."

Is it right to sacrifice a man that pins may be cheap? Thoreau did not believe it was. He applied himself, we are told, so closely to the improvement of the pencil, that at last he produced an article good enough to assure his fortune. But he met the congratulations of his friends with the startling announcement that he could never make another pencil. "Why should I?" he asked. "I would not do again what I have done once." From that time he followed his bent as an observer of nature, doing only such remunerative work as would provide him with the necessaries of life. "Never idle or self-indulgent," says Emerson, "he preferred, when he wanted money, earning it by some piece of manual labour agreeable to him, as building a boat or a fence, planting,

grafting, surveying, or other short work, to any long engagements."

Thoreau was a philosopher, and philosophers hold that it is only by doing the best for himself that a man can do the best for the society in which he lives. In a sense this is a direct exhortation to selfishness—not a narrow, individual selfishness, however, but a wide, general, cosmic selfishness. And only in so far as a man makes the most of his nature, does he fulfil his function in the universe of which he forms a part.

Towards this magnificent conception of Hegel, Herbartians are now drifting. We must aim at self-realisation, and to this end interest must be subordinated. All our interests are to be tested by their effect on a man's development viewed in connection with his place in the organic unity of the world in which he has to live. In other words, it is not sufficient to have interests; the interests must be of the right sort; our choice of subjects must be such as will co-ordinate our activities with those of the civilisation around us.

This brings us to the question of a scheme of studies, a curriculum. Professor Findlay divides the chief subjects of knowledge into the following six groups :—

GROUP 1. *The Humanities.* That is, all those bodies of knowledge which deal with the life of man in the present or the past, including past history, and the literature in which the thoughts of men have been expressed. This group would naturally consist of four branches: (*a*) Lessons in the Bible, which is at once History and Literature; (*b*) History, first of one's own country, secondly of foreign and ancient peoples; (*c*) Literature, mainly poetry, but also prose; (*d*) Geography, so far as it deals with Man in the world.

GROUP 2. *The Natural Sciences*, which are to include the whole realm of natural sciences as presented to us in sense experience.

GROUP 3. *The Abstract Sciences.* In the school, this group will be mainly represented by Mathematics. Only in later life can such subjects as Logic, Ethics, Civics, Economics, be systematically studied with advantage.

GROUP 4. *The Arts of Symbolical or Conventional Expression.* This would include Language, both spoken and written, also Music.

GROUP 5. *The Arts of Representation* (*or Natural Expression*), including Drawing, Painting and Manual Training.

GROUP 6. *Physical Recreations and Exercises.*

In commenting on this classification, Pro-

fessor Findlay says:—"Each of these groups adds some new feature to the life of the pupil, and if any are omitted . . . we should say that the principle of harmonious development was being violated. . . . Since the pupil is, above all things, a human being, he must study the Humanities; but not these only, for, since he is provided with senses, in a world of sight and sense and beauty around him, the study of Nature must never be set aside. But he is not only a thinker, he is an actor, he must have privilege to express himself in the conventional arts of speech and music, and finally, he must be allowed to use the tools by which he can express himself in the natural arts."

A judicious selection from such a comprehensive list of studies as is here outlined, will greatly facilitate the work of cultivating wide general interests, and, moreover, interests that will conduce to self-realisation.

We have already emphasised the fact that interests depend upon the formation of apperception masses, and these, again, depend upon the supply of ideas. Now the idea is, primarily, an intellectual process, a cognition; and at first sight it might seem that the cultivation of ideas would result merely in the building-up of intellect. But of course

Herbartianism is far from meaning this. Each idea has its emotional aspect; and as the will is rooted in the emotions, it follows that he who rightly cultivates his emotions, rightly cultivates his will. It is the duty of the teacher, the writer, the speaker, to associate the right emotion with the idea he supplies. One may treat of vice in such a way as to rouse emotions of loathing and horror; while the very same facts might have been made to appear, to say the least of it, alluring. And a school tale which glorifies meanness, lying, disobedience, deserves to be burnt by the hangman because it is a corrupter of youth. In history, biography, poetry, fiction, ideas may be so presented as to rouse the highest or the lowest feelings; all depends upon the emotional aspect with which the idea is associated.

The outcome of education should be conduct. And the Herbartians do not attempt to treat moral training as a thing separate and distinct from cognition; with them, all springs from a right treatment of the idea as a basis. De Garmo puts this quite plainly. Through study and discipline he says, the pupil "is to discover his moral relations both to individuals and to the social, family, religious, civic, and business groups, with which every child,

under the conditions of modern civilisation, must sooner or later enter into active co-operation. Not only is there to be an intellectual perception of moral relations, but moral ideas are gradually to be transformed into moral ideals. This process takes place through the development of moral disposition, which is occasioned and guided by judicious appeals to the feelings, and by the cultivation of inherent interest in the things that tend to produce the best and most useful members of society. Right disposition is to crystallise into moral habit through holding the child to right conduct by means of rational, love-tempered authority. These are the high moral purposes that the followers of Herbart seek to realise. To this end they propose no elaborate ethical system, in whose intricacies teacher and pupil alike are in danger of being lost, but they appeal rather to the most universal facts of every-day experience as a basis for the few but comprehensive ethical principles on which they base their efforts at moral education. To cultivate moral insight and disposition, they depend upon the child's own spontaneous judgment of right and wrong as, one by one, the various types of moral situation are brought to his attention by the ever-broadening work of the school."

The Herbartians claim that, if we once give to interest the place it deserves in education, we shall soon see a marked improvement in the welfare of our country. In support of this contention they quote authorities from widely-different sources.

"A man drinks, not only because his brute nature is strong and craves the stimulus, but because he has no other interests, and must do something." (*The Times*, October, 1873.)

"The spread of education and the extension of a cheap literature adapted to the wants and requirements of the people, aided by the establishment of lectures, reading-rooms, and schemes of rational recreation, have done much to withdraw the operatives from the public-house." (*Royal Commission, Scotland*, 1860.)

"Ignorant and untrained minds, weary and unhealthy bodies, gloomy and demoralising environment, monotony and weariness of life: out of these evils spring the seeds of vice. . . . What culture have these poor women ever known? What teaching have they had? What graces of life have come to them? What dowry of love, of joy, of sweet and fair imagination? Think what their lives are, think of the darkness and confusion of their minds, and then say, is it a marvel if they take to

gin?" (Robert Blatchford, in the *Morning Leader*, September 2, 1898.)

"At bottom the temperance question is largely an entertainment of the people question. . . . Pictures, books, good music, clear laughter, heart-fellowship: are not these true aids to life? Is it not worth while to bring them within reach of the docker, the coalheaver, the artisan, and the common labourer? . . . Never will the evil spirits be permanently cast out until the empty house is tenanted by such as these." (Rev. Will Reason, in *University and Social Settlements*.)

"I am disappointed at the moral taste of the public after thirty years of compulsory education. It is a vital social need that has to be met, and a publican meets that need, caters for it, and, in a sense, satisfies it in attractive and alluring, but defective ways. If we leave the publican alone to satisfy that need, the temperance workers may talk till the crack of doom, for he has the people in the hollow of his hands. . . . Let us utilise the schools in the city as evening institutions." (Dr Paton, September 30, 1903; Midland Temperance Conference, Birmingham.)

"People must acquire interests unless they are to live by appetite alone. Rational interests and hobbies are the best antidotes to

'hooliganism' in every rank of society." (Mr Ritchie at Aberdeen, October 29, 1903.)

"No one would sit and drink in a public-house if he knew how delightful it was to sit and think in a field; no one would seek excitement in gambling and betting if he knew how much more interesting science was." (Lord Avebury.)

It is one thing, however, to talk about implanting an interest, but a quite different thing to implant it. Suppose, for instance, that, inspired by Lord Avebury's sentiment about the delights of sitting and thinking in a field, you were to approach a hard-drinking navvy, and give him the good news. Very well; you have told him; now he knows it. But do you suppose for a moment that the knowledge will make any difference in the man's conduct? Until you can build up in his mind as powerful an apperception mass dealing with thinking in fields, as he already possesses on the subject of drinking in public-houses, Lord Avebury's bit of "copy-book" wisdom will be likely to go by the board. "I know," the navvy might very well say, "that thinking in fields is delightful—for those who like it: I don't. I know also that drinking in public-houses is delightful—for those who like it: and I do."

If the apperception masses for any subject are not formed, you cannot rouse a permanent interest. Artemus Ward, piqued at the irresponsiveness of a man in his audience who never smiled, exerted all his powers to make that man laugh, and failed. He failed because the man was stone deaf. Most people are stone deaf to appeals in *some* subjects. Unless the apperception masses are there, it is vain to expect sustained interest. That is why those who start Penny Readings, Improvement Societies, Continuation Schools, and so on, are bound to meet with a very modified success; for the very people they wish to benefit, either stop away altogether, or come once or twice for the novelty of the thing and then drop off: responsive apperception masses are absent. And that is why it is so supremely important to begin the formation of these masses while the mind is still fresh and young. When the education authorities, the teachers, the preachers, the journalists, and the writers of books begin to acknowledge the immense importance of Herbart's teaching—a teaching that culminates in the doctrine of interest—well, maybe the millennium will have come within the bounds of our horizon.

CHAPTER XVII

A VITAL POSTSCRIPT

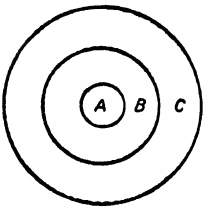
"I HAVE read your first sixteen chapters," said a friend-in-need who had been good enough to look over my manuscript, "and I am struck by a serious omission. From first to last you do not once mention the soul."

This is quite true. I have not, hitherto, mentioned the soul, simply and solely because the subject appears to me to be altogether outside the scope of a work on psychology. There is, we are told, a natural body, and there is a spiritual body. Psychology deals with body-and-mind—I couple the two together because of their intimate connection and inter-dependence; it is a purely natural science. The soul comes within the province of spirit.

In the present chapter, however, I have ventured to step outside the domain of psychology proper, and to express my own beliefs. Perhaps they are over-beliefs; but if so, they

are, I think, the over-beliefs of our common Christianity.

I conceive of man as a threefold creature, compacted of body, mind, and soul. This conception might be figured by three concentric circles, thus:—



The ring-like area *C* to represent the body, the ring-like area *B* to represent the mind, and the circle *A* to represent the soul. As far as psychology is concerned, nothing can get into *A* without passing through *C* and *B*; everything that is in the mind gets there through the bodily senses. By means of stimuli from the senses you get ideas in the mind, the said ideas being aggregated into masses, groups, and systems, and each idea having a threefold aspect, viz., cognition, emotion, and will. The process reminds one of the penny-in-the-slot machines one sees on the platforms of railway stations. Drop in a penny, the machinery works, and out pops one's packet of cigarettes. In a similar way you drop a sensory stimulus into the mind, the machinery works, and out pops an action. You drop in a multitude of stimuli, and out pops a character.

Psychology attempts to give some account

of the mental machinery, and the knowledge it supplies is bound to be of supreme importance. But it is difficult to escape the conclusion that the science is deterministic, and that it gives us a mind moulded by outside influences, *and by outside influences alone.* You thus mould the mind by means of outside influences, and by means of nothing else.

Bring in, however, the notion of the soul as the central, creative force of man's nature, and you change all this. You can now view the mind from a different standpoint; not as the slave of outer circumstance, but as the handmaid of the soul.

"For the soul is dead that slumbers," says Longfellow; but the assertion is inaccurate. No soul is really dead, though nearly all exist for the most part in a state of intermittent coma. A life of pleasure, a life of utility, is a naturalistic life, a state of subjectivity developed from outside; there is no gleam of spirituality in it. A life inspired by ideals of the good, the beautiful, the true, is a spiritual life, in which the state of subjectivity is developed from the central activity of the soul.

There is thus an opposition between a life of sense on one hand, and that of heroic spiritual activity on the other; and to the highest types of character a radical break with

the former is imperative. The nature of this break is shown in the three-stage scheme:—

1. The stage of nature, the life under the authority of sense, expediency, and public opinion.

2. The negative stage, the break with the conventional régime, and the deepening of the individual life till it comes into immediate touch with the absolute Spirit.

3. The reconstructive stage, the stage of true spiritual liberty, in which, as persons, we assist in the spiritual transfiguration of the universe.

Thus, let the soul, the true self, awake, let it turn from the world of sense to the world of spirit, to God, and the whole man will be ennobled, transfigured.

Perhaps I cannot do better than quote in conclusion the following passage from Boyce Gibson's *Rudolf Eucken's Philosophy of Life*:—

"A negative movement from a self-centred, self-enslaved individuality, to a God-centred personality, a movement from the sense-world to the self, and through the self inwardly to God, is at once the assertion and the salvation of our true selfhood. It is a defence of our personality against all naturalising and impersonalising tendencies, and, as such, it is the indispensable preliminary to our faith in

the efficacy of our freedom. The defence of personality is the defence of freedom, and it is in the defence of personality, as we have said, that lies the true significance of the negative movement. The positive movement consists in the redemption of the world into sympathy and harmony with those spiritual ideals—ideals of art, morality, and religion—apart from whose sustaining power our personality would shrink to a mere pendant of the mechanism of Nature. This redemptive process is grounded in the intimate harmony between our human freedom and the saving initiative and intention of God. In this fundamental conviction we have the union of morality and religion, the claim of a religious basis for ethics, and the establishment of Eucken's philosophy as an ethico-religious philosophy of life."

INDEX

Adams (J. F.), 37, 55, 88, 105, 121, 124, 140
Analytic method, 26, 28
Anglo-Saxon, 44
Apperception, conditions of, 104-119
—— masses, 61, 64, 65, 66, 68, 151, 169, 174, 185, 190
—— phases of, 86-103
—— value of, 116
Archimedes, 93
Aristotle, 146, 151
Arnold (M.), 131
Association, process of, 57, 58
Associative Areas of Flechsig, 171
Attention, 51, 60, 160-173

Bain (A.), 106
Besant and Rice, 67
Blatchford (R.), 194
Body, condition of, 16
Brain, structure of, 10-14
Browning (R.), 67
Burmese sages, 20

Carlyle (T.), 36, 67, 128, 131
Christianity, 198
Co-existence, law of, 60
Concepts, 47, 48, 49, 149
Consciousness, 50, 56, 64, 97, 161
Contiguity, law of, 57-59, 60
Contrast, law of, 60
Conversion, 94
Copernicus, 93
Crime, 121-124
Cromwell (O.), 34
Crousaz, 149
Culture epochs, 183
Curriculum, 188-190

Darwin (C.), 93, 128, 156, 180 181
Deductive reasoning, 153-155
De Garmo (C.), 191
Dickens (C.), 73, 122
Drudgery, 178
Dual personality, 98
Duty, sense of, 179
Dynamic threshold, 82

Education, true test of, 186
Ego masses, 130
Eliot (G.), 76, 157, 163, 177
Emerson (R. W.), 187
Equality, theory of initial, 35
Eucken (R.), 77, 200
Euclid, 74, 87

Faculty theory, 23, 24, 120, 121, 137
Fechner, 26
Fichte, 30
Findlay, 188
Function, localisation of, 15

Galton (F.), 97

Galvani, 93
Garfield (J.), 96
Generalisation, conditions of, 156-158
Genius, 37
Gibson (Boyce), 78, 200
Gladstone (W. E), 128
Goldsmith (O.), 125
Göttingen, 30
Greatness, test of, 119

Habit, Generalisation of, 125-127
Hamilton (Sir W.), 145, 146
Handwork, Educational, 41
Hard Times, 53
Harte (Bret), 65
Hartenstein, 30
Hawthorne (N.), 114
Hayward (F. H.), 87
Hegel, 25, 188
Helvetius, 104, 105
Herbart (J. F.), 29, 32, 35, 36, 39, 54, 57, 64-66, 73, 83, 99, 104, 106, 122, 123, 177, 178, 192, 196
Herbert (George), 54
Hodgson (F.), 106
Holmes (O. W.), 3
Huxley (T.), 17

Idealism, 26
Ideas, 50, 66, 68, 69, 73, 79
—— emotional aspect of, 162, 191
—— five systems of, 112
Immediate recall, 82
Immermann, 98
Inductive reasoning, 153, 155
Interest, 174-184
Introspection, 23
Intuition, 13

James (William), 45, 55, 57, 58, 87, 172

Jefferies (Richard), 134, 136
Judging and reasoning, 143-159
Judgments, 125, 149, 150

Kant, 30
Knowledge-boxes, 21, 22
Knowledge not always power, 113
—— process of acquiring, 143, 146
Königsberg, 30
Krüger (Paul), 97

Lange, 54, 86, 93, 100, 119, 145, 146
Lange-James theory, 166, 167
Laplace, 125
Lazarus, 45
Lessing, 119
Livingstone (David), 100
Longfellow (H. W.), 199

MacCunn (J.), 127
Marconi, 93
Materialists, 39
Mediate recall, 82
Memory, 61
Mental correctives, 128
—— development, 49, 131
—— diversity statistics, 33, 34
—— efficiency, 112
—— hygiene, 6
Middlemarch, 77
Mind-building, 49
Minds, gradual divergence of, 33
Mind-substance, properties of, 30, 31, 32, 35
Morgan (Lloyd), 55, 62, 161
Motor areas, 14
Multiple personalities, 98
Museums, 141

Napoleon, 98, 125
Nature-study, 141

Nervous system, 10-14
Newton (Sir I.), 32, 42, 93

Obedience, 129
Observation, 133-142
Olfactory areas, 14

Paganini, 16
Paton (Dr), 194
Paul (St), 131
Payment by results, 185
Perception, 43-49
Percepts, revolutionary, 93, 96, 97
Phrenology, 15, 24
Pilgrim's Progress, The, 77
Pleasure, indirect pursuit of, 162, 163
Presentative activity, 76, 77, 80, 81
Presented content. 75, 77
Propositions, 149
Psychology a natural science, 197
—— not an art, 7
—— practical, 20
—— schools of, 26

Quiller-Couch (Sir A.), 135, 136

Reade (Charles), 90
Reason (Rev. W.), 194
Recepts, 144
Reflection, 60, 61, 68
Retentiveness, 62
Ritchie, 195
Romanes, 144
Rowntree, 108, 109
Ruskin (John), 67, 131

Scatter-brained types, 172
Scott (Sir Walter), 34
Séances, 45
Self-realisation, 188
Sensation, the mental unit, 38, 48
Sensory areas, 14
Shakespeare, 13, 180, 186
Similarity, law of, 57-60
Soul, 197 ff.
Spencer (Herbert), 40, 111, 128
Spirituality, 199-201
Statical threshold, 82-84
Steinthal, 86
Stevenson (R. L.), 4, 34, 98, 131, 182
Stout (Prof.), 86, 166
Studies, Scheme of, 189, 190
Subconsciousness, 56, 85, 161
Swinburne (A. C.), 67
Syllogisms, 154
Synthetic method, 26, 28

Tactile areas, 14
Tennyson, 40, 146
Thoreau, 187
Thring, 166
Titchener, 149, 151, 164
Training, 120-132

Ufer (Chr.), 59

Vachell (H. A.), 132
Virtues, prime, 131
Visual areas, 14
—— process, 39
Vocabulary, imperfections of, 91, 92
Volta, 93

Ward (Artemus), 196
Watt (Jas.), 93, 96
Wordsworth, 113
Wundt, 27

Ziller, 182

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